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Motifs, Monuments & Mountains:

Prehistoric Rock Art in the Cumbrian Landscape

Volume 2 of 3

Kate E. Sharpe

Thesis submitted for the degree of Ph.D.
Department of Archaeology
Durham University
2007

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PART III

Perspectives and Perceptions:

Three themed studies



Long Meg, Great Salkeld, Cumbria.

Chapter 7

Lakeland Landmarks

A study of cup-marked outcrops in the central Lake District valleys

The real voyage of discovery consists not in seeking
new landscapes but in having new eyes.

Marcel Proust (1871 - 1922)

Four of the most recently identified rock art sites in the Lake District bear striking similarities: they are all carved on glacially-smoothed outcropping rocks, and situated on low-lying ground close to the terminal areas of lakes, at the foot of mountain passes leading to the high fells. All have relatively simple carvings, with multiple cup-marks predominating. The first to be identified, in 1999, was near the village of Patterdale at the southern tip of Ullswater, and the foot of Kirkstone Pass. Here, motifs were found on four discrete areas along an outcropping ridge of volcanic stone. Similar cup-marked outcrops have since been discovered at the northern end of Crummock Water near the village of Loweswater, and at the southern end of the same lake on a narrow strip of land which now separates Crummock Water from the lake of Buttermere. Both panels lie close to a number of natural route ways through the central mountains. Fieldwork designed to identify further panels in comparable situations was unsuccessful (see Chapter 5), but in 2006 an additional cup-marked outcrop was identified in the village of Grasmere, at the northern end of the lake of the same name. Could these four sites share a common function or have been inspired by similar ideologies?

This chapter examines each site in detail and compares their local contexts using evidence from both the existing landscape and the archaeological record. Section 7.1 introduces the panels providing an overview of their location, form and the nature of the carvings. Section 7.2 takes a more detailed look at the micro-topography of the panels, the composition of the motifs and their relationship with the rock 'canvas'. In Section 7.3 the analysis is extended to the wider landscape, with GIS software used to explore relationships between the rock art sites, natural features and known archaeological evidence. Section 7.4 draws together several strands of evidence, focussing on the potential role of the outcrops in relation to movement through the landscape and suggesting possible motivations and inspirations behind the creation of these sites.

7.1 The panels

The following section introduces the carved outcrops: Low Park (Loweswater), Syke Farm (Buttermere), Broadgate Park (Grasmere), and the four Patterdale sites at Place Fell Cottage, Greenrigg, Crookabeck and Beckstones (**Table 7-1**). The descriptions are based on observation and data gathered during repeated visits between 2004 and 2007. Before the present study only the Patterdale carvings had been recorded and published (Beckensall 2002; 20-34). On their discovery in 1999 (prior to scheduling) some of these panels were pressure-hosed to remove moss, and subsequently recorded by Beckensall using wax rubbing and photography. Today they are largely obscured beneath moss and other vegetation. 'Cleaning' is not permitted so the original drawings were invaluable, however additional, unrecorded areas of carving were noted at both Greenrigg and Crookabeck. Details of the recording methods used for the remaining sites are provided in Chapter 5.

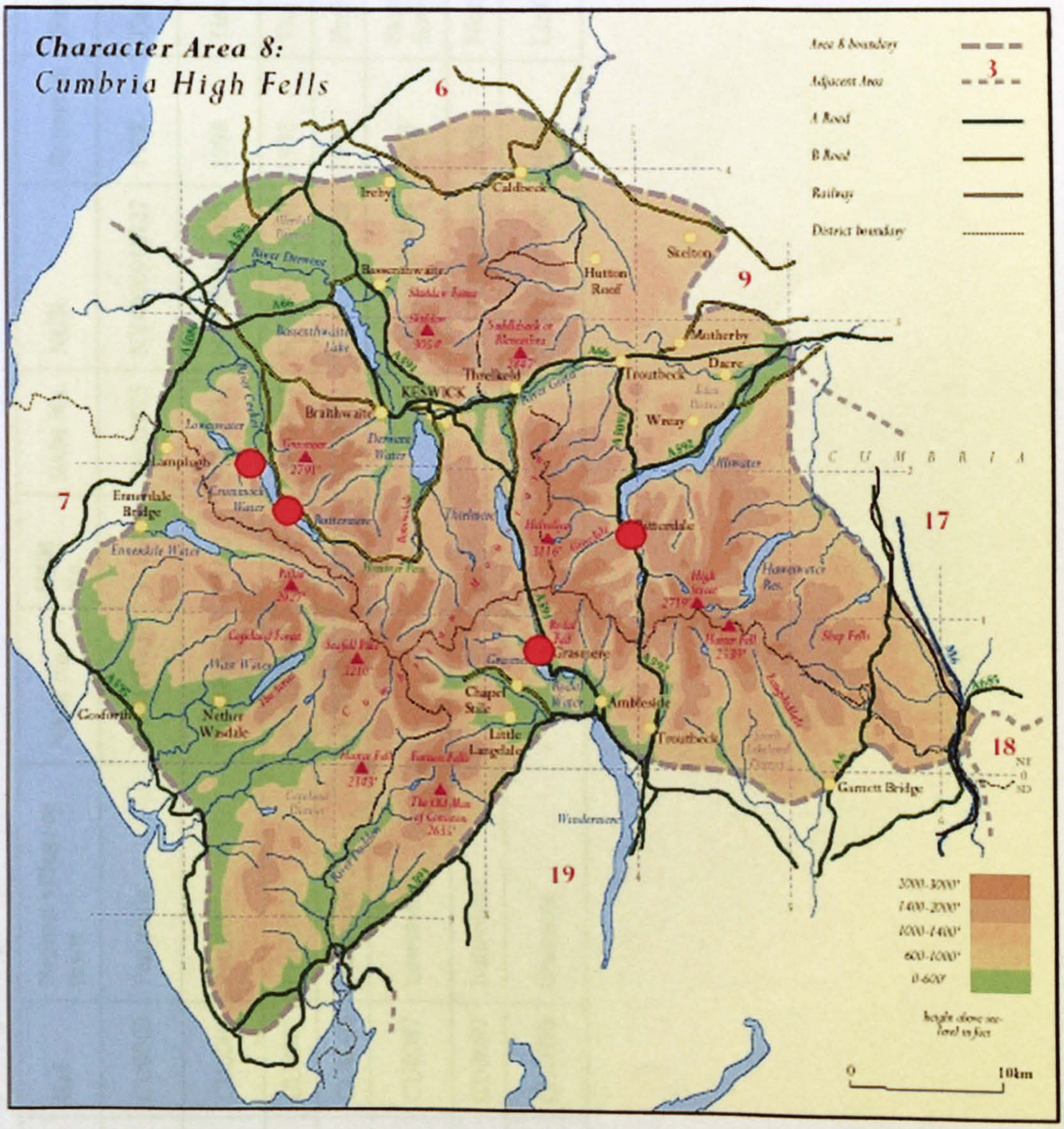


Figure 7-1: Location of outcrops discussed in Chapter 7. From west to east: Low Park, Syke Farm, Broadgate Park, and Patterdale. Base map courtesy of Countryside Agency, © 2005 (web ref #3)

Table 7-1: Locations of sites and panel references, in order of discovery.

Site	Ref	Nearest village or town	NMR No.	HER No.	SAM No.	NGR	Reported	Discoverer	Landowner and access
Place Fell Cottage	CU0003	Patterdale	NY41NW34	31114	SM32875	NY4000916127	1998	Tim Cook	Mr & Mrs T. Cook; private (garden)
Greenrigg	CU0004	Patterdale	NY41NW31	31115	SM32874	NY4001016063	1998	Tim Cook	Mr and Mrs Ambler; private (garden)
Crookabeck	CU0005	Patterdale	NY41NW33	31729	SM32873	NY4003015780	1998	Tim Cook	Mr and Mrs Bell, private (pasture)
Beckstones	CU0006	Patterdale	NY41NW32	31730	SM32872	NY4033015020	1999	Paul and Barbara Brown	National Trust, private (farm yard)
Low Park	CU0087	Loweswater	-	-	-	NY1466420459	2003	Stephen Hood and Tim Sowerby	Mr Jackson Hope, permissive access (pasture)
Syke Farm	CU0090	Buttermere	-	32583	-	NY1723516965	2004	Niall Hammond	Mr Kyle, private (camp site)
Broadgate Park	CU0096	Grasmere	-	-	-	NY3385207767	2006	Liz Clay	South Lakes District Council (public park)

7.1.1 Patterdale

The village of Patterdale in the north-eastern Lake District lies at the head of Ullswater, a glacial finger lake which is 12 km long and 1 km wide. The valley begins several kilometres to the south where the Goldrill Beck rises and flows northwards eventually emptying into the lake. At the head of the valley the Kirkstone Pass provides a natural route into the central Lake District. Closer to the lake, to the eastern of the beck, a ridge of close-grained igneous rock of the Borrowdale Volcanic Series (BVS) outcrops in several places. Here, in 1999, cup-marks were found on exposed areas within the hamlet of Rooking and near to farms at Crookabeck and Beckstones. Extensive searches of the valley at the time of the discoveries revealed no further examples, but an additional small area of carving (four cups) to the north-west of Greenrigg was reported in 2006 by the original finder, local resident Tim Cook.



Figure 7-2: Location of Patterdale sites along the east of the valley.
North to south: Place Fell Cottage, Greenrigg, Crookabeck, and Beckstones.
Map courtesy of OS Digimap.



Figure 7-3: View of Patterdale sites from Birks. (Beckstones site is out of picture to the right). Photo: Andrew Leaney

Place Fell Cottage

The most northerly and most elevated of the Patterdale group lies within the hamlet of Rooking about 1 km from the tip of Ullswater, at approximately 170 m OD. It forms part of a rockery at Place Fell Cottage and was the first Patterdale panel to be identified, by residents Tim and Pat Cook. The long axis of the narrow outcrop lies north to south. It is slightly domed from east to west, reaching a height of approximately 0.5 m. The exposed area measures 3.8 m x 1.35 m but further carvings may lie buried. **Figure 7-5** shows Beckensall's interpretation (2002; fig. 12). Around 70% of the available (exposed) surface is decorated. Natural fissures (A) running along the highest part of the outcrop and at right angles divide the surface into three sections. Beckensall recorded over 80 cups of varying sizes, mostly in the southern two sections of the panel. Three 'dumb-bell' motifs (B) are present, and a large, shallow 'basin' (diameter 30 cm) is located in the central section (C). Four cups in the southern section appear to form a 'zig-zag' pattern (D) although this is not apparent in the Beckensall drawing. The 'counter-sun k' cups (E) indicated by Beckensall could not be identified in the field.

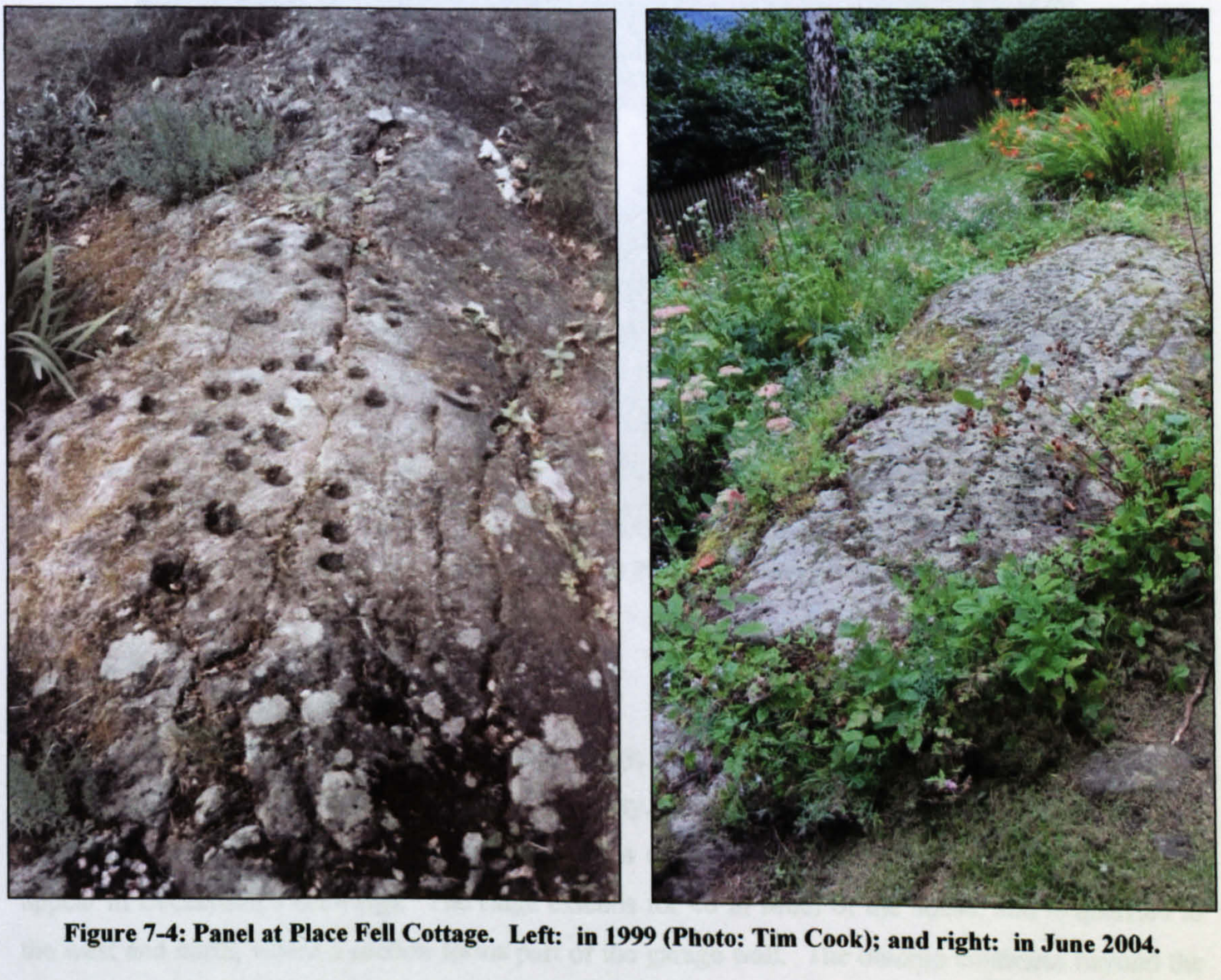


Figure 7-4: Panel at Place Fell Cottage. Left: in 1999 (Photo: Tim Cook); and right: in June 2004.

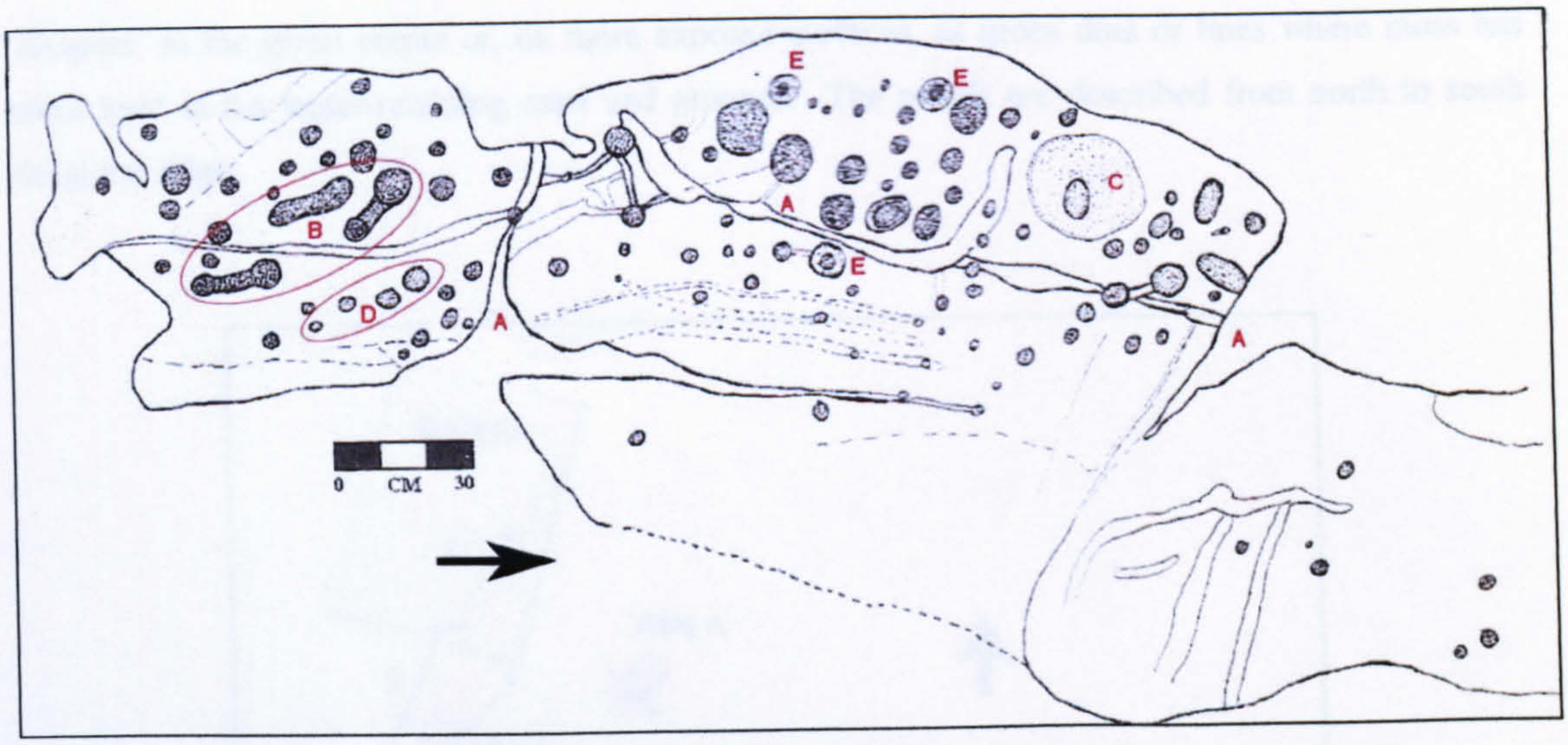


Figure 7-5: Place Fell Cottage recorded by wax rubbing. After Beckensall (2002: fig. 12).



Figure 7-6: 'Basin' (C) filled with snow at Place Fell Cottage. Photo: Tim Cook.

Greenrigg

The second site at Rooking is less than 100 m away, a little further down the valley side within the garden (and garage!) of the neighbouring property, 'Greenrigg'[1]. This is the most extensively decorated site in the valley with five discrete areas of carving (**Figure 7-7**), some of which do not appear in Beckensall's drawings. The ridge extends for 40 m south of the house, and is quarried to the west and north, where a section forms part of the garage wall. The outcrop continues beyond the southern boundary wall into the neighbouring property, and also emerges to the north of the house, but no further carvings were detected. The garden is heavily planted, and trees and shrubs cover large areas of rock (**Figure 7-10**). Turf and moss obscure many of the carvings which appear as small

[1] The outcrops at Place Fell Cottage and Greenrigg may once have appeared less detached; some quarrying has taken place, and lanes and property boundaries now divide them.

'dimples' in the green carpet or, on more exposed surfaces, as green dots or lines where moss has taken hold in the water-retaining cups and grooves. The panels are described from north to south along the ridge.

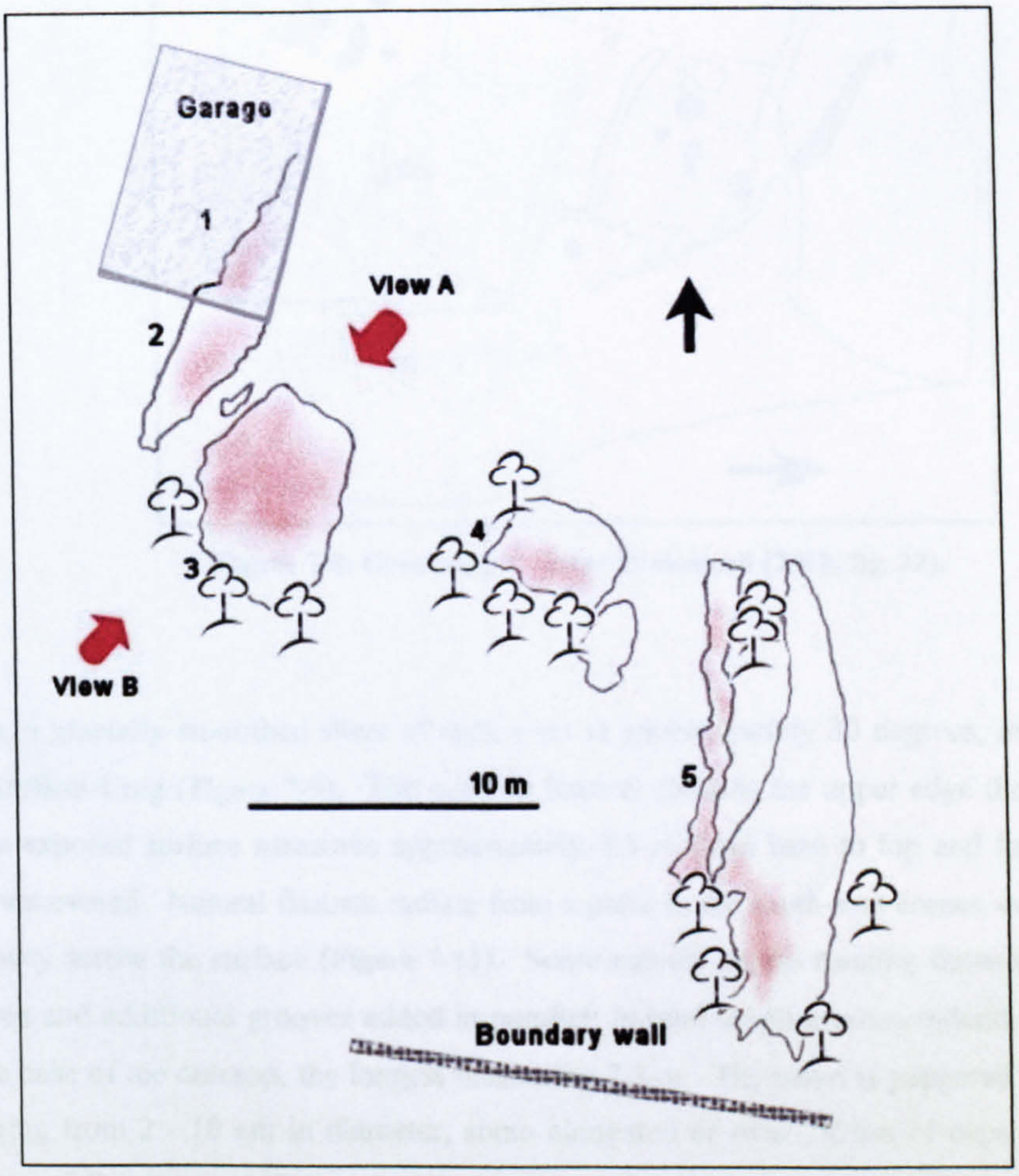


Figure 7-7: Sketch plan of Greenrigg showing exposed outcrop and carved areas (red)

Greenrigg 1 (Not recorded)

The most northerly carvings are found inside the garage where the outcrop has been incorporated into the wall. A full inspection was not possible but a number of cups and grooves could be clearly discerned on a flat horizontal shelf of rock.

Greenrigg 2

The external surface of the same piece of outcrop extends for some 5 m. The southern face slopes steeply and it is here that the second group of carvings is located, possibly a continuation of those inside the garage. The sloping part of rock here is criss-crossed with natural fissures, and a scatter of cups and three grooves are located on the flatter, smoother area towards the top (**Figure 7-8**).

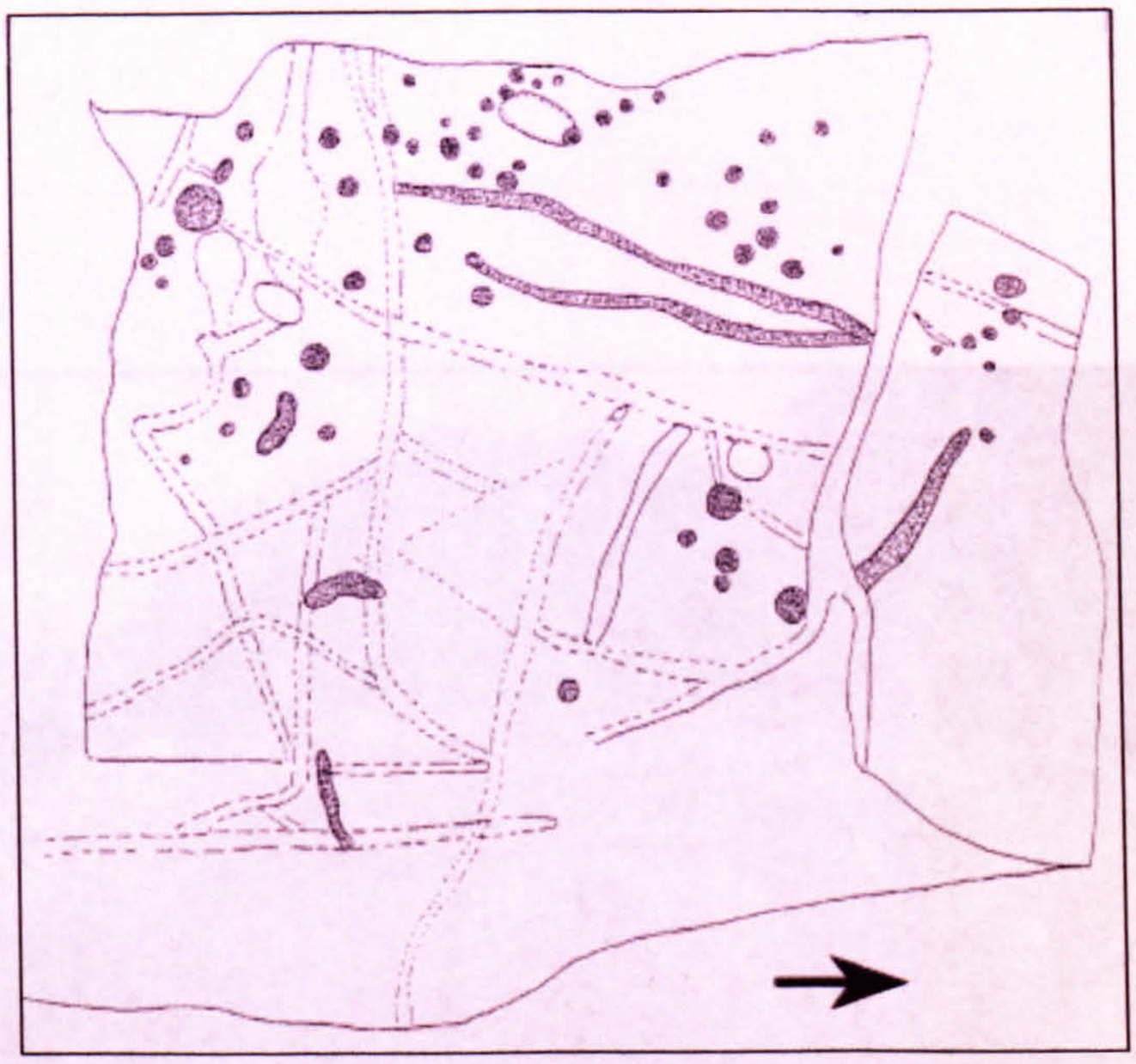


Figure 7-8: Greenrigg 2. After Beckensall (2002, fig. 22).

Greenrigg 3

To the south, a glacially-smoothed sheet of rock rises at approximately 30 degrees, in line with the summit of Arnison Crag (**Figure 7-9**). The outcrop flattens towards the upper edge then drops away steeply. The exposed surface measures approximately 4.5 m from base to top and further carvings may remain uncovered. Natural fissures radiate from a point in the south-east corner, one extending a third of the way across the surface (**Figure 7-11**). Some natural cracks running down the slope have been enhanced and additional grooves added in parallel; in total seven grooves extend from the main fissure to the base of the outcrop, the longest measuring 7.3 m. The panel is peppered with hundreds of cups ranging from 2 - 10 cm in diameter, some elongated or oval. Rows of cups are positioned between some of the grooves (**Figure 7-12**). In the south-west corner an angular 'ring' is formed where a groove loops around a cup (**Figure 7-13**).

Greenrigg 4 (Not recorded)

Approximately 6 m to the south-east, the outcrop reappears for a distance of 4 m. Carvings are obscured beneath moss but several cup-marks can be clearly discerned.

Greenrigg 5 (Partially recorded)

The outcrop finally emerges as a ridge, increasing in height and width from north to south, eventually forming a vertical wall to the west and a steep slope to the east, made treacherous by moss and leaf litter. Carvings are located predominantly along the upper edge of the ridge, and also on the sloping areas to the east. At the highest point on the southern edge, a double row of cups (**Figure 7-14**) appears to lead the eye towards the fells across the valley.

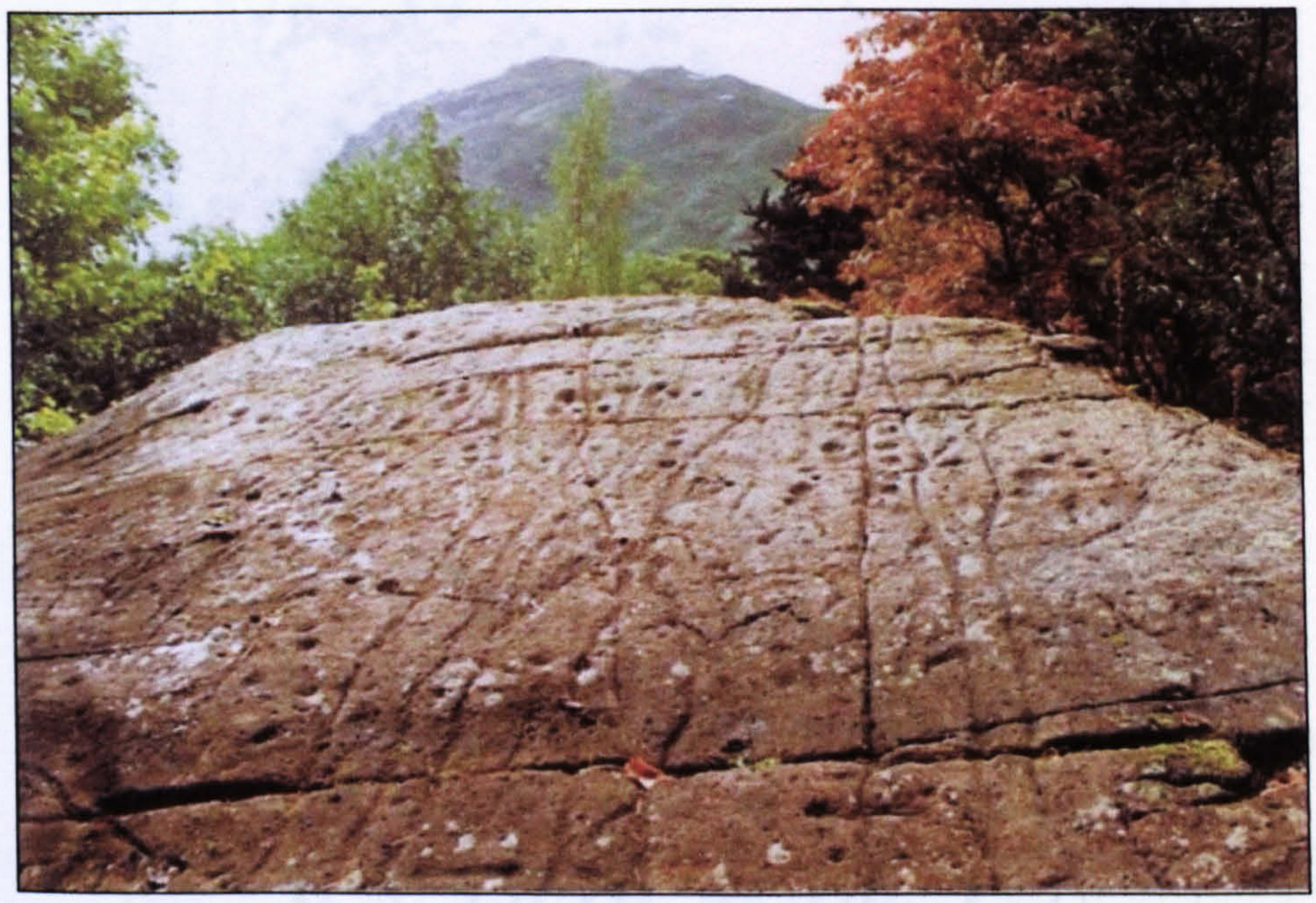


Figure 7-9: Greenrigg 3 after cleaning in 1999. View to the south west with Arnison Crag beyond (View A in Figure 7-7). Photo: Stan Beckensall.



Figure 7-10: Greenrigg 3 in June 2004, obscured by moss.



Figure 7-11: Greenrigg 3 after Beckensall (2002: fig. 17).

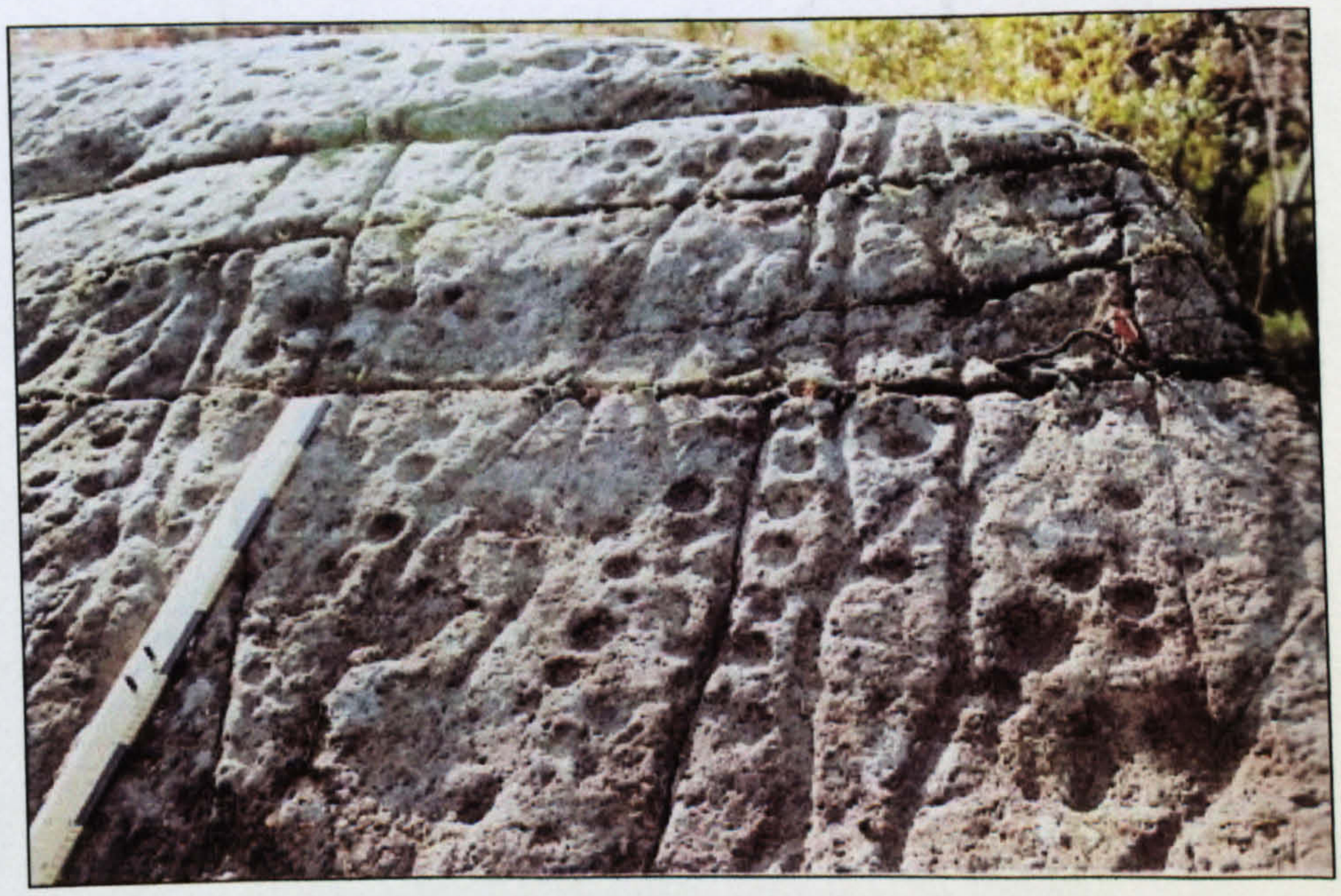


Figure 7-12: Detail of Greenrigg 3 showing rows of cups between parallel grooves. Photo: Stan Beckensall.

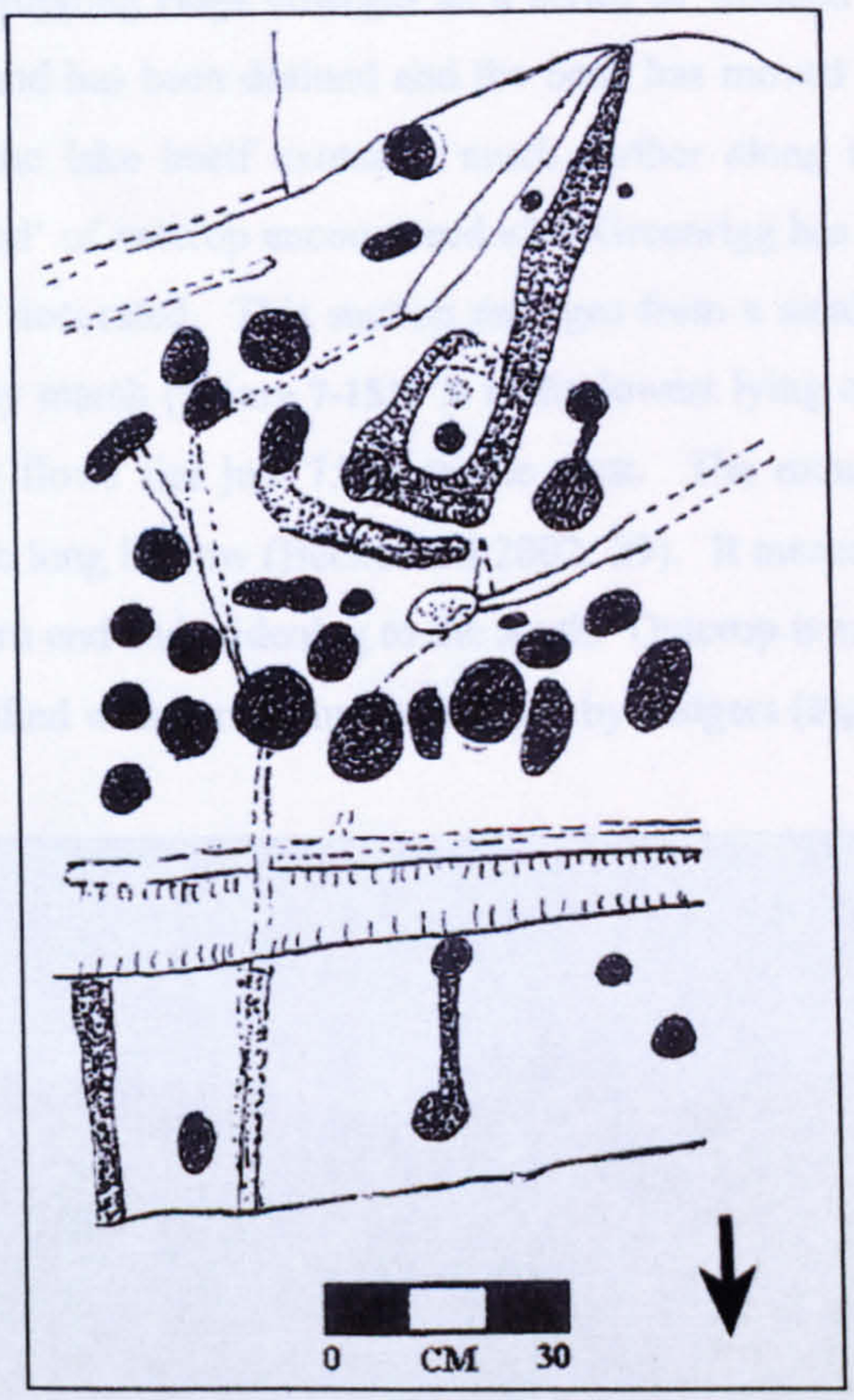


Figure 7-13: Greenrigg 3. Detail of 'cup and ring'. After Beckensall (2002:fig. 21)

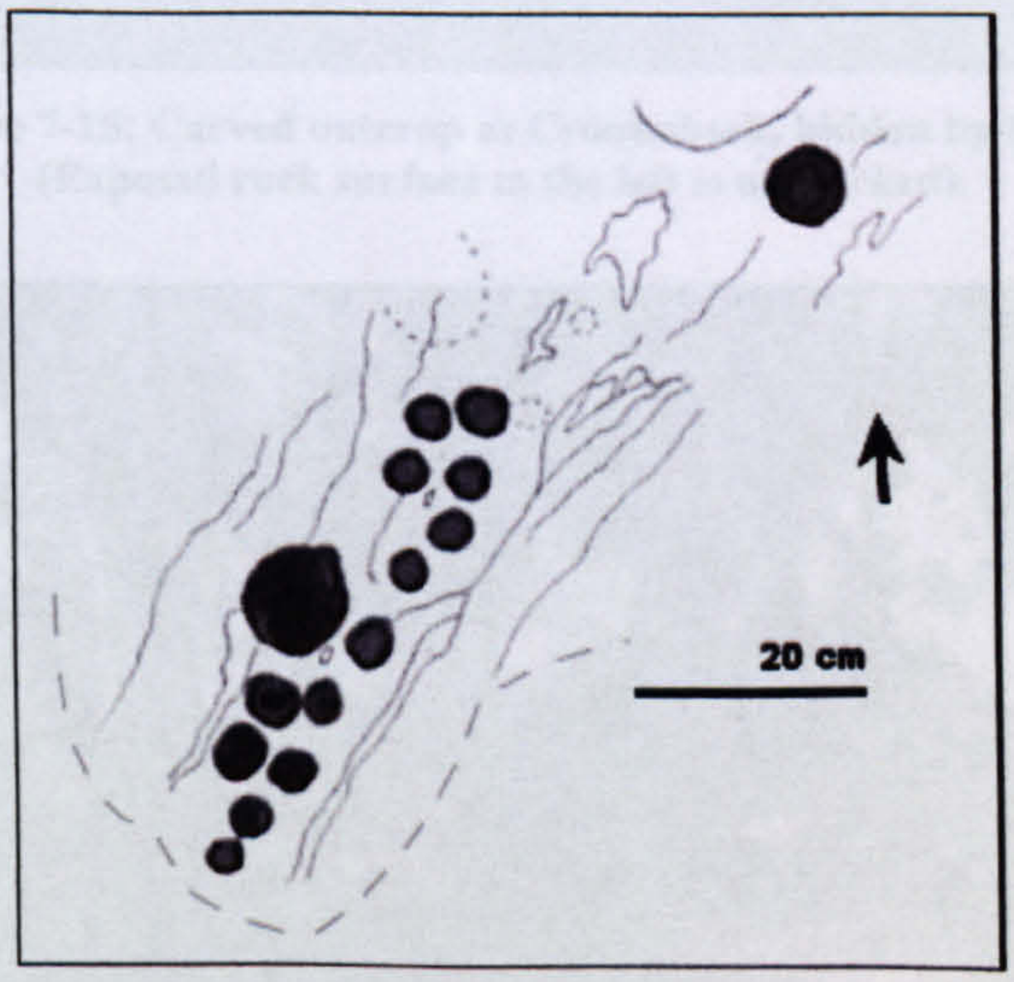


Figure 7-14: Cups on upper edge of Greenrigg 5 recorded by tracing, Sep 2006.

Crookabeck

A track leads south from Greenrigg to Crookabeck Farm. To the west, the ground slopes towards the Goldrill Beck, and the outcropping ridge emerges as a series of wooded 'islands' strung along the marshy valley floor. The land has been drained and the beck has moved several times over the last century; it is likely that the lake itself extended much further along the valley prior to human intervention. The first 'island' of outcrop encountered after Greenrigg has no known carvings but the next in the chain is heavily decorated. This section emerges from a small wooded hillock which is surrounded on three sides by marsh (**Figure 7-15**). It is the lowest lying of the panels at 150 m OD; the Goldrill Beck currently flows lies just 75 m to the west. The mound has been likened to an upturned boat or a Neolithic long barrow (Beckensall 2002: 29). It measures approximately 50 m in length, narrow at the northern end and widening to the south. Outcrop is exposed only at the ends, the central section dips and is filled with earth, much disturbed by badgers (**Figure 7-16**).



Figure 7-15: Carved outcrop at Crookabeck, hidden by trees. (Exposed rock surface to the left is unmarked).



Figure 7-16: Disturbed central section of the mound at Crookabeck.

Six areas of carving were detected (**Figure 7-17**), but further motifs may be obscured by vegetation. All are on glacially-smoothed surfaces which are either horizontal, slightly sloping (with an eastern aspect) or domed. A varied selection of motifs is present than at other sites in Patterdale. These include cups, ovals, and grooves, and three cup-and-ring motifs. Only a selection of the carvings were recorded by Beckensall .

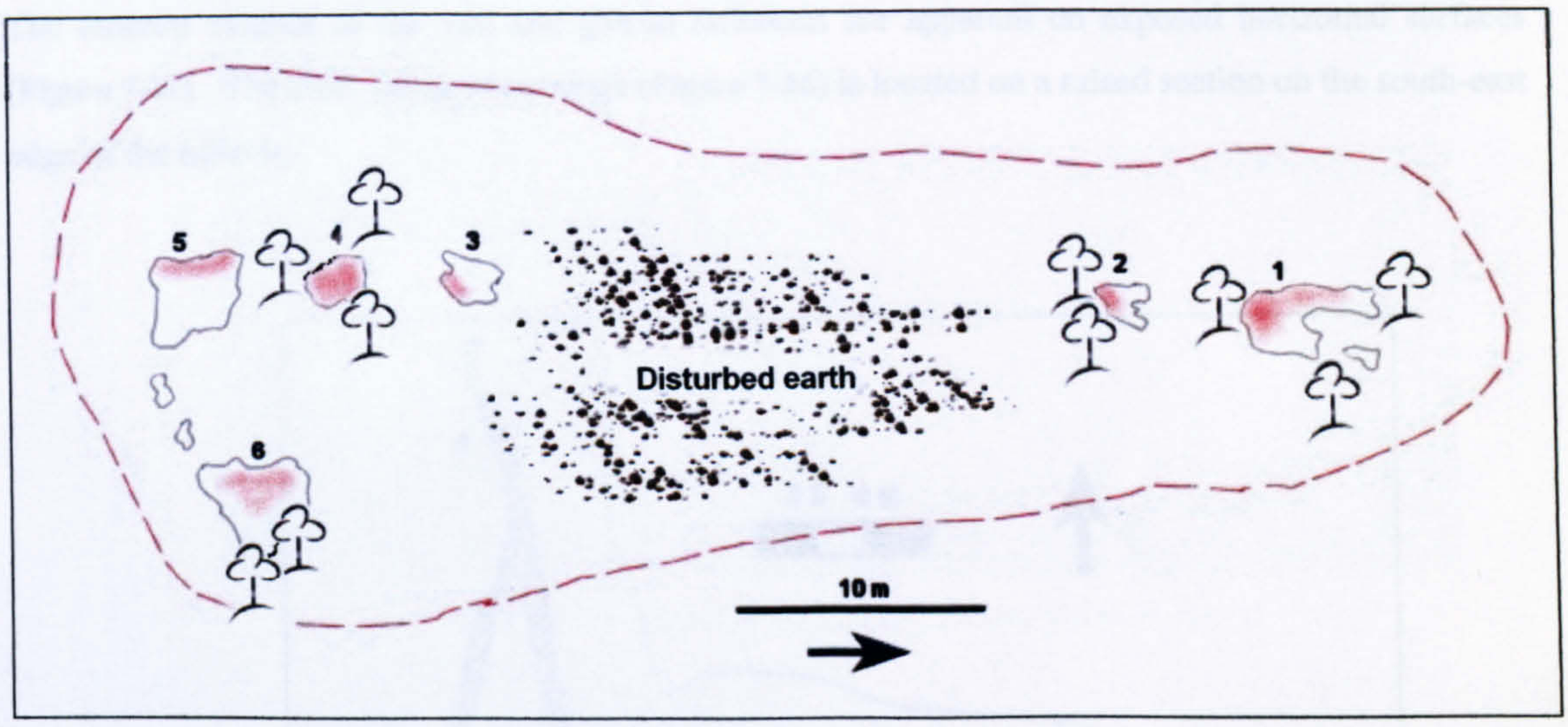


Figure 7-17: Crookabeck. Location of carvings (red) on the mound.

Crookabeck 1

The northern tip of the outcrop emerges as two 'limbs' of smooth, domed rock which converge resembling a pair of legs (**Figure 7-19**). The longer, left 'leg' measures 5 m to the 'waist', the distance from waist to crotch being 2.4 m. Most of the carvings are located towards the waist, although some grooves extend along the 'left leg' (**Figure 7-18**). Here, a group of oval motifs looks similar to dividing bacteria viewed with a microscope (**Figure 7-20**).

Crookabeck 2

A few metres to the south, an arrow-shaped section of outcrop has two cup-marks visible on its south-eastern side.

Crookabeck 3

South of the disturbed central area of the mound, the outcrop re-appears. Carvings are present on the eastern side of a slightly sloping panel. Three cups of increasing size are connected by a looping groove and below this (not shown in Beckensall's drawing) is an unusual pecked area (**Figure 7-21**).

Crookabeck 4

The next section of outcrop slopes with an easterly aspect, and is covered with cups and three cup-and-ring motifs (**Figure 7-22** and **Figure 7-23**); the carvings appear to extend beneath turf and tree roots. The panel is divided into sections by natural fissures. The north-west section (**Figure 7-24**) is not depicted by Beckensall.

Crookabeck 5

A few metres to the south the outcrop reappears and a number of motifs are present along the western edge. Three parallel grooves depicted by Beckensall (**Figure 7-25**) could not be detected.

Crookabeck 6

The outcrop extends to the east and glacial striations are apparent on exposed horizontal surfaces (**Figure 7-27**). The final group of carvings (**Figure 7-26**) is located on a raised section on the south-east edge of the hillock.



Figure 7-18: Crookabeck 1. After Beckensall (2002: fig. 25)



Figure 7-19: Crookabeck 1 looking north from the 'waist'.



Figure 7-20: Crookabeck 1: detail.

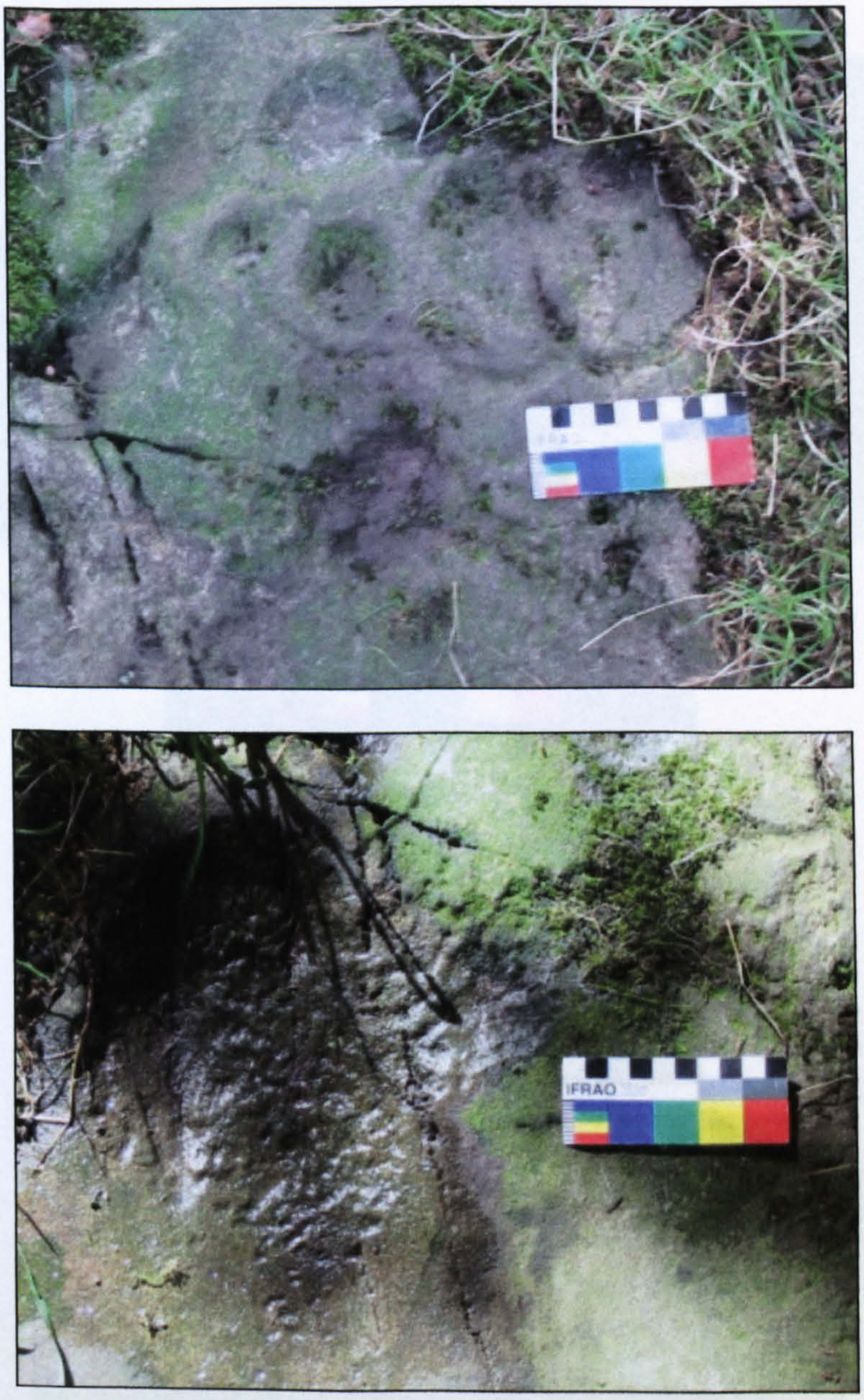


Figure 7-21: Crookabeck 3: Loops linking cups (top); area of pecking (bottom).

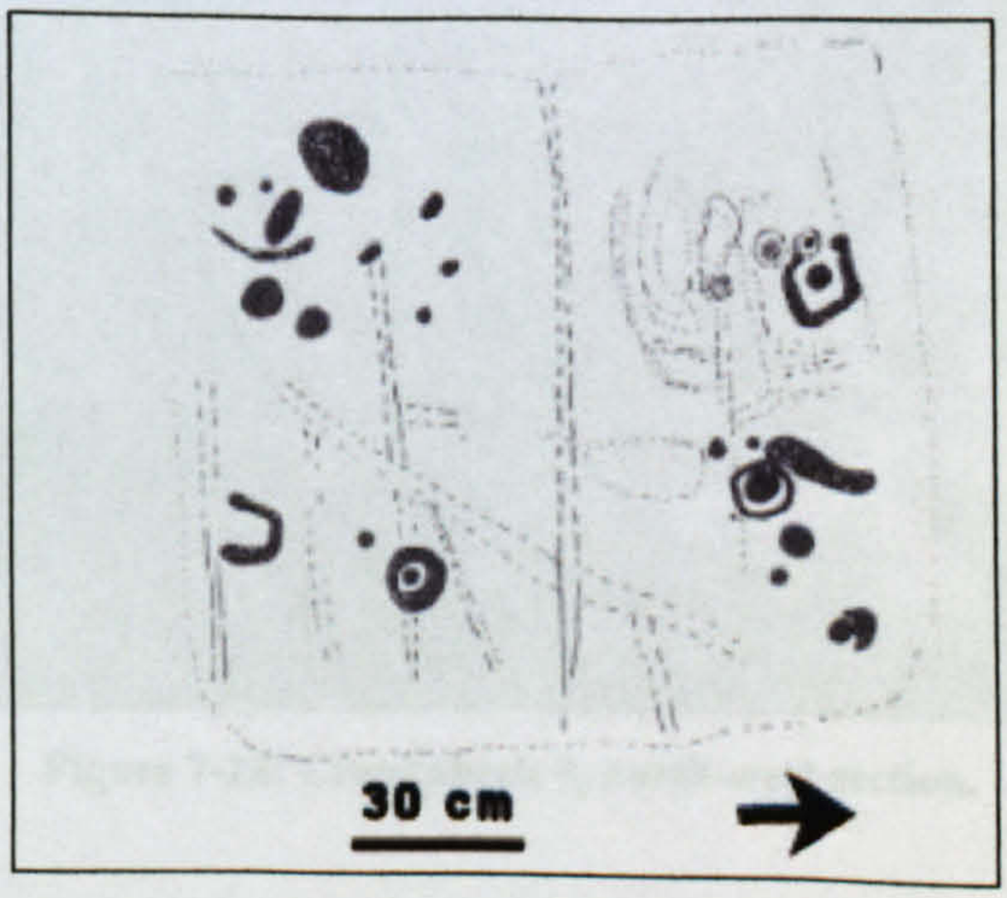


Figure 7-22: Crookabeck 4, south-east section.
After Beckensall (2002: fig. 24)

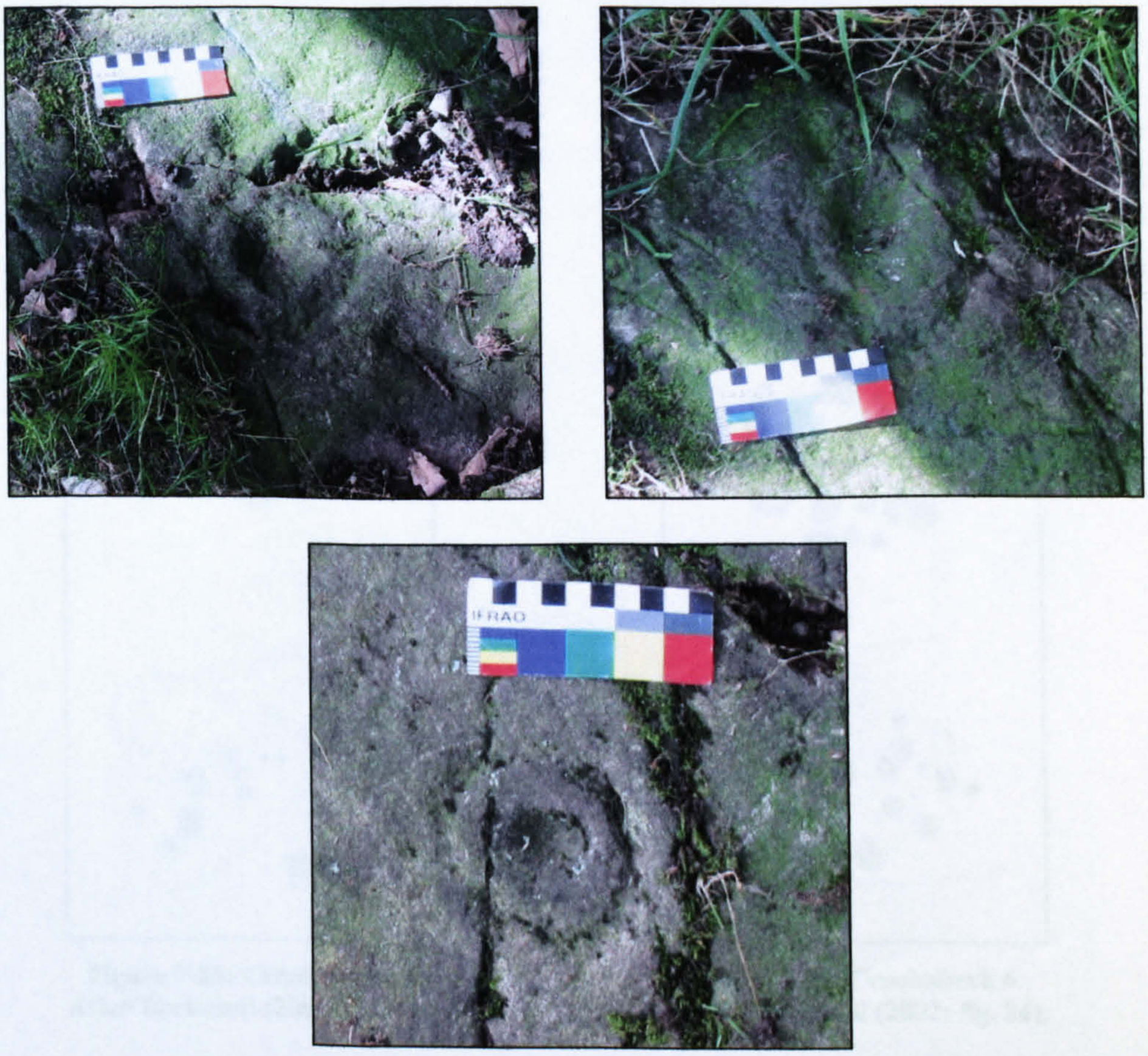


Figure 7-23: Crookabeck 4. Cup-and-ring motifs.



Figure 7-24: Crookabeck 4, north-west section.

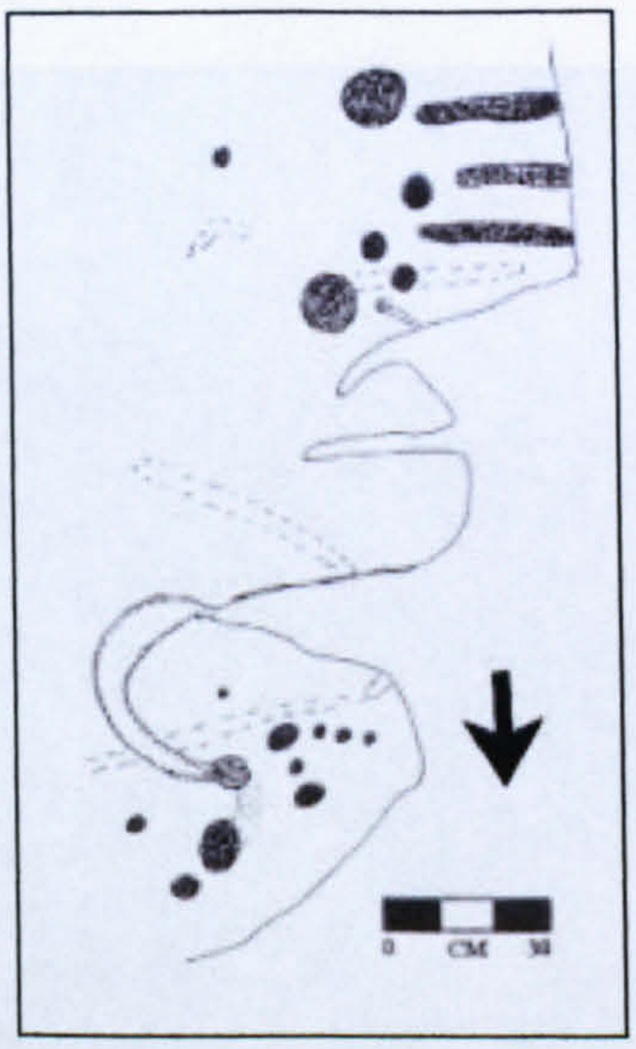


Figure 7-25: Crookabeck 5. After Becknsall (2002: fig. 24).

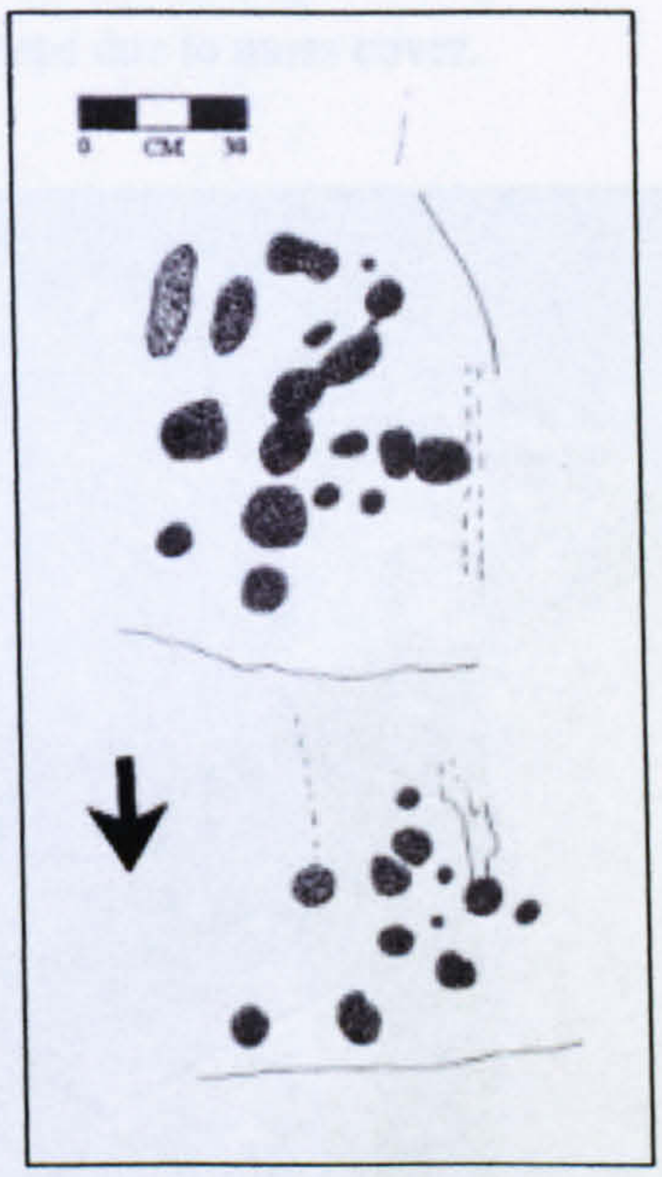


Figure 7-26: Crookabeck 6. After Beckensall (2002: fig. 24).



Figure 7-27: Crookabeck: striations.

Beckstones

Half a kilometre further along the track lies Beckstones Farm and the most southerly panel, first recorded by Paul Brown in 1999 (Beckensall 2002: 32-34, web ref #13). A domed outcrop measuring 10 m x 12 m and reaching a height of around 2 m above the level of the track, is carved on its upper, glacially-smoothed surface. Thirty cups of varying sizes are grouped within an area of 1.0 m x 1.5 m; a Y-shaped groove lies 1.0 m to the south. Brown (web ref #13) notes additional cups on outcrop to the north of the farm gate but these could not be detected, perhaps due to moss cover.



Figure 7-28: Beckstones: looking north towards the carved outcrop.



Figure 7-29: Carved area on outcrop at Beckstones.

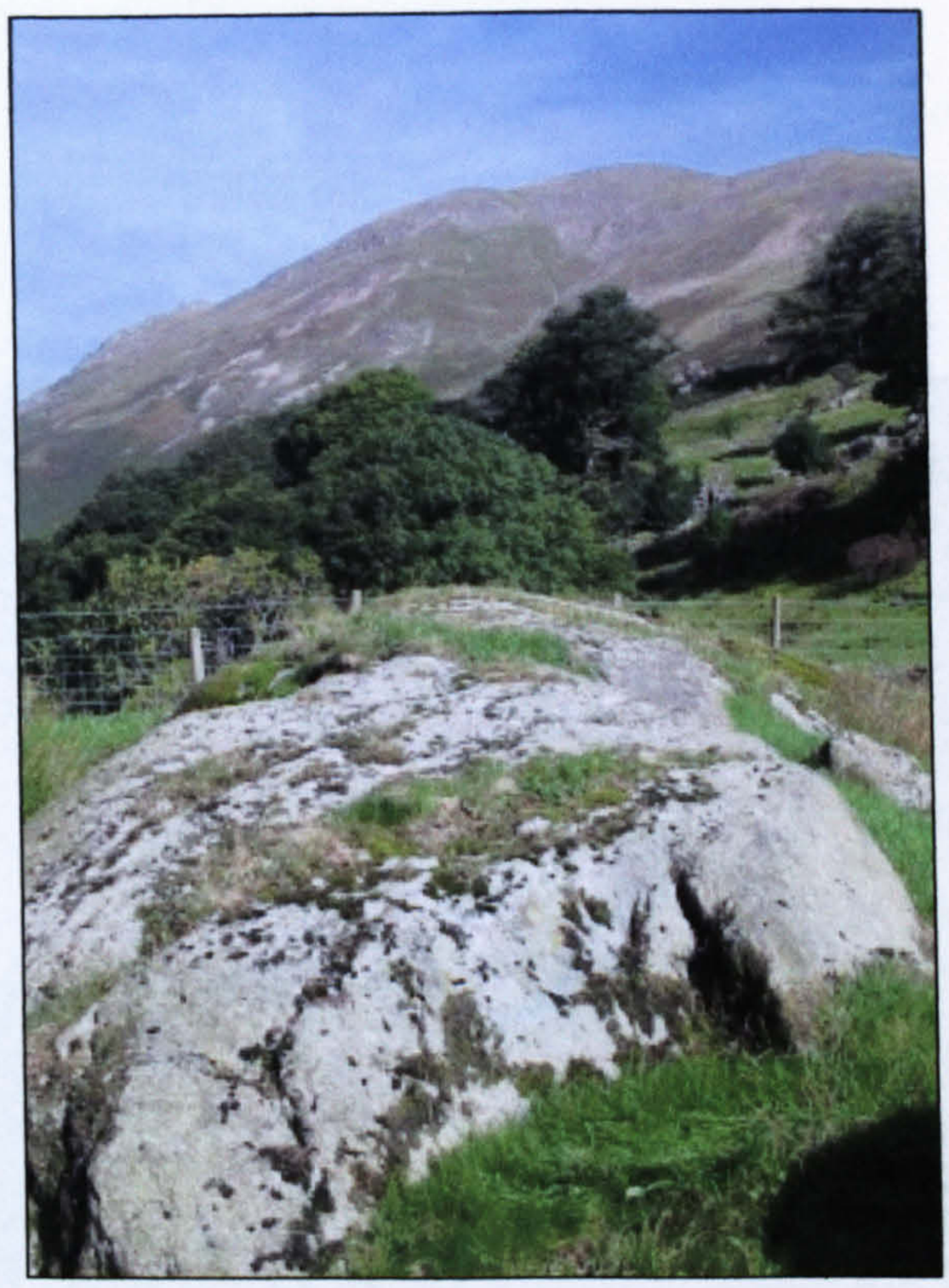


Figure 7-30: Beckstones: Place Fell behind.

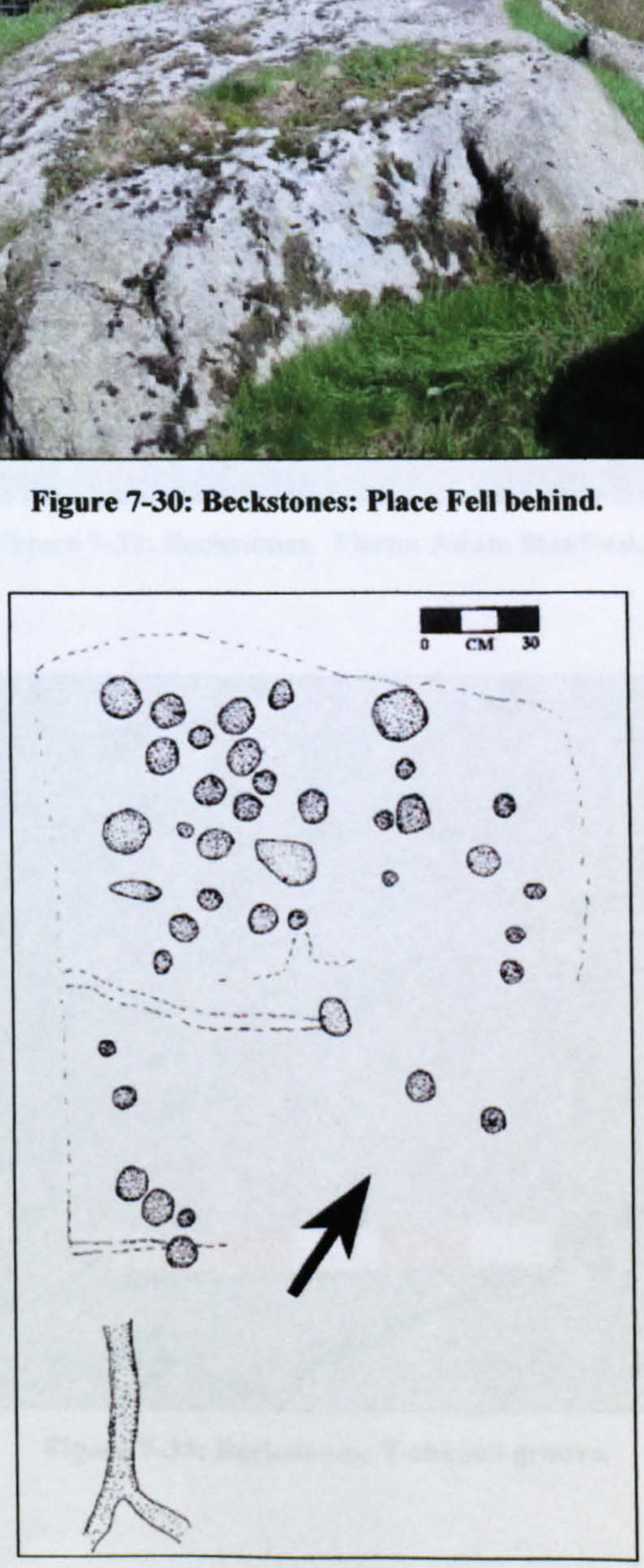


Figure 7-31: Beckstones.
After Beckensall (2002: fig. 26)



Figure 7-32: Beckstones. Photo: Adam Stanford.

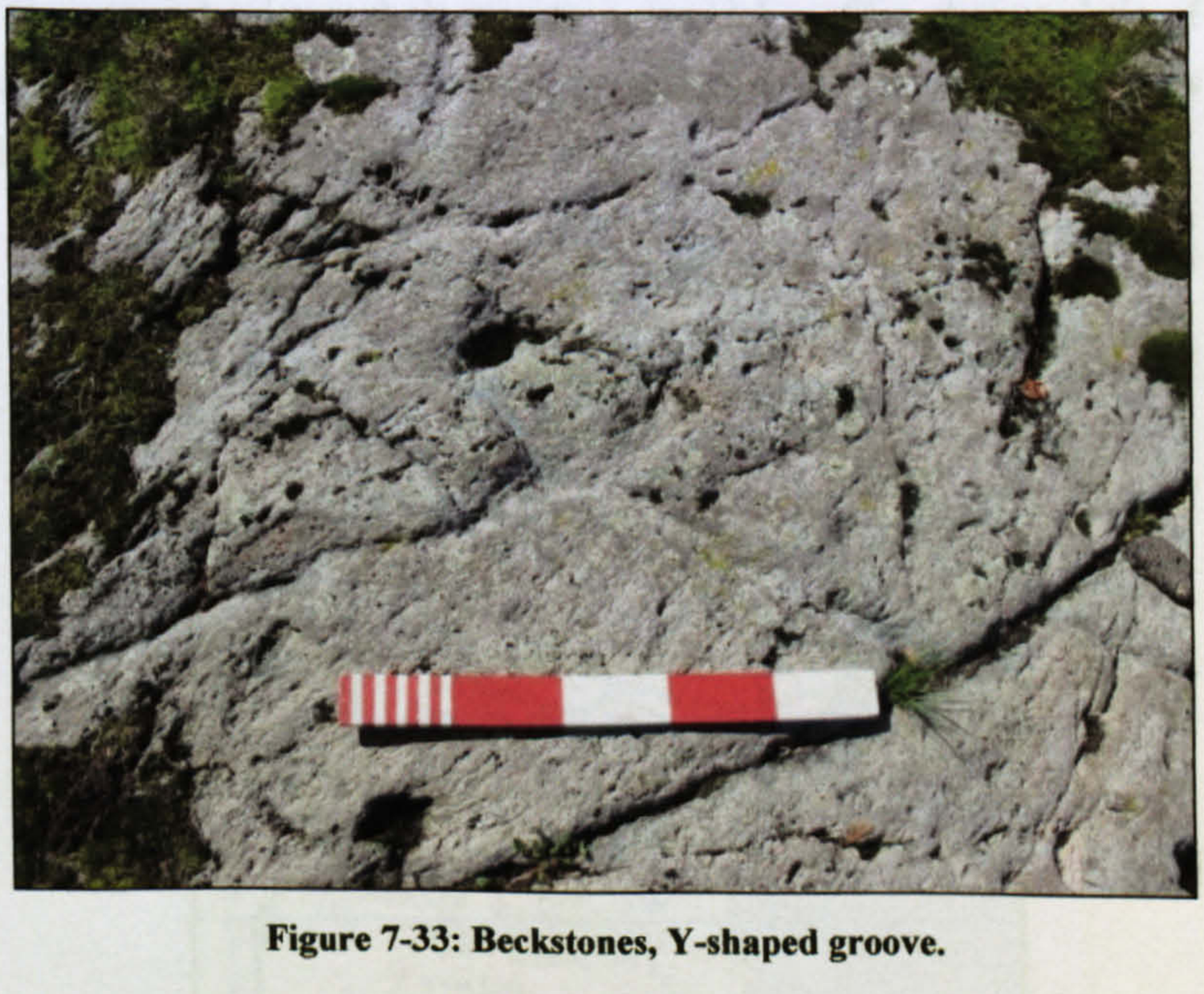


Figure 7-33: Beckstones, Y-shaped groove.

7.1.2 Low Park, Loweswater

This site was reported in 2003 by both Dr Tim Sowerby and Stephen Hood independently. Beckensall subsequently recorded the site, but the resulting drawings remain unpublished. The closest village is Loweswater, also the name of a nearby lake, although the lake nearest to the panel is Crummock Water. The carved outcrop is located within an area once known as Loweswater Parks (Fair 1936), now recalled only in the names of two hamlets, High Park and Low Park. For clarity, the site is referred to as 'Low Park' after the nearest of these. The outcrop lies 500 m from the present lake shore (**Figure 7-83**), and just 50 m from the Park Beck, the only stream in the Lake District to flow from a lake (Loweswater) towards the central mountains[2] (Fryer 1991: 6). Today, the land is used for grazing, and a footpath provides public access to the lake. Two 'standing stones' are located on the flat area below the outcrop, one very close to the pathway and most likely a gatepost. (Similar posts can be seen further along the track to the west of the boggy area). Beckensall notes possible cairns in this area but the ground is very disturbed. Towards the lake a small, rounded peninsula rises from the marsh and shows much evidence of human activity, being surrounded by a system of banks and ditches. This is the site of Loweswater Pele, a mid-12th century, moated manor house (**Figure 7-35**).

The site lies at the foot of the dark slopes of Melbreak to the north-west. Turning clockwise, the more gentle contours of Loweswater Fell fall away to the valley of the River Cocker which flows from the northern end of Crummock Water through Lorton Vale. North-east, across the lake, the peaks of Whiteside and Grasmoor dominate, their smooth pyramidal profiles characteristic of Skiddaw slate landscape. Crummock Water stretches towards the distant fells to the south, the view interrupted by the protruding knoll of Rannerdale Knotts (**Figure 7-84**).

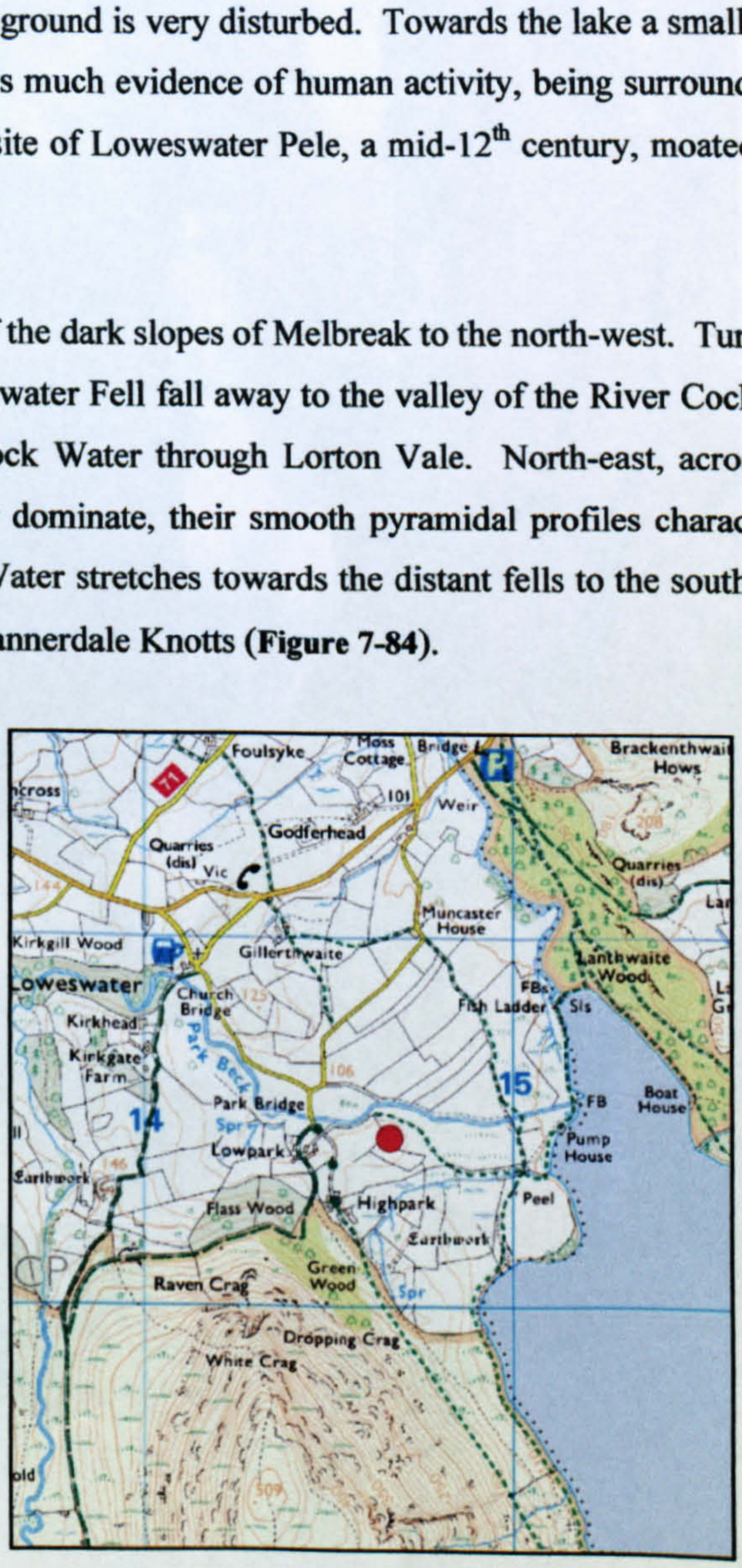


Figure 7-34: Location of Low Park outcrop.

[2] All other lakes drain outwards in a radial pattern.

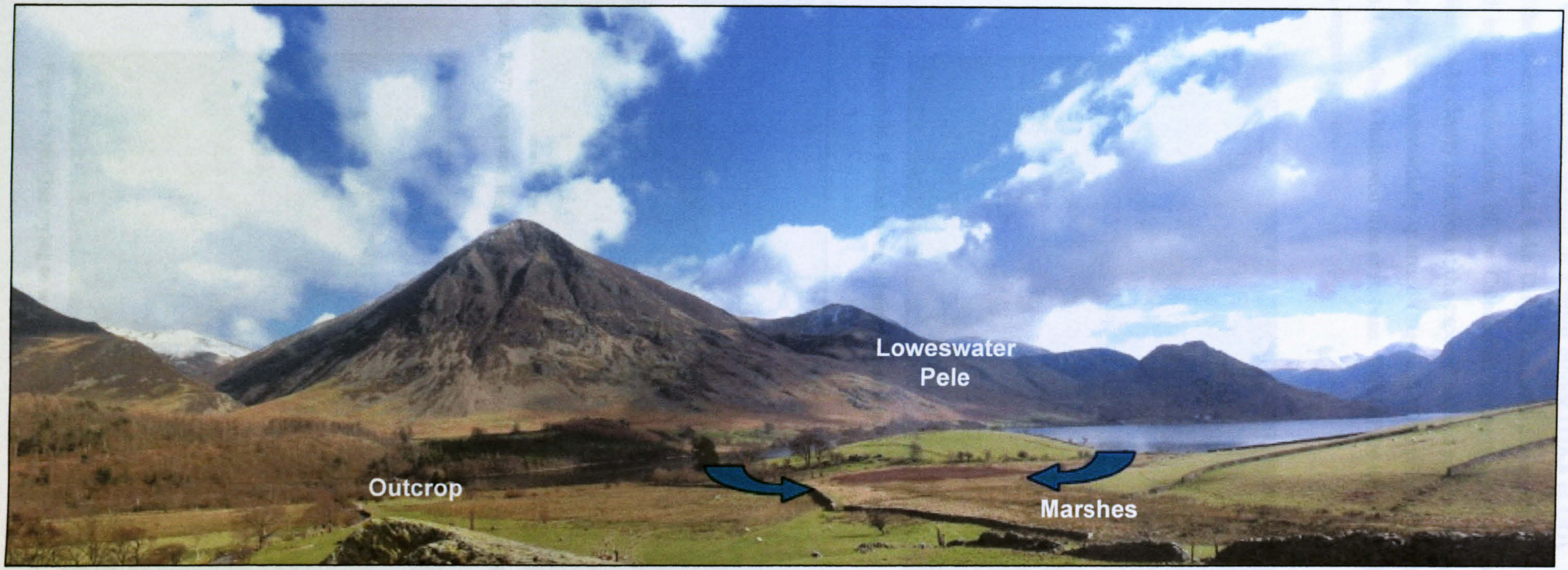


Figure 7-35: View from the outcrop at Low Park showing the location of the Pele. Grasmoor dominates the view north-east.

The outcrop emerges from the summit of a small hillock (116.8 m OD). It is formed of Skiddaw slate, one of the oldest rocks in the Lake District, created during the Devonian period when slates were uplifted by the convulsions of the Caledonian upheaval, which folded them into wrinkles. Evidence of this can be clearly observed at the exposed eastern edge of the outcrop (**Figure 7-36**). The northern face has been substantially quarried (**Figure 7-37**) leaving a vertical wall which reaches a height of 4 m, including a hollowed area at its base. Parts of the western end have also been removed leaving deep, angular gashes.



Figure 7-36: Folded layers of slate thrust upwards; Grasmoor behind.



Figure 7-37: Approaching the outcrop from the east showing quarried north face.



Figure 7-38: Quarrying to western end; Loweswater Fell behind.

The glacially-smoothed upper surface stretches for 24 m in a sweeping crescent extending to 3.8 m across its widest point; the slope varies but reaches up to 30 degrees at the steepest part. An iron rod and a ring are embedded in the rock suggesting that a fence once crossed the top, and two deep circular holes towards the lower edge may have been drilled for quarrying. Fissures run vertically down the slope in a few places and other, less defined linear features cross these horizontally over most of the surface. Large areas of the surface exhibit distinctive swirling, wavy patterns created during the formation of the rock (**Figure 7-40**). The exposed setting of the outcrop has limited the extent of vegetation on the rock surface; there is little moss present and limited lichen cover. Vegetation is established in the deeper fissures, but a dark band along the lower edge suggests that the turf has retreated (**Figure 7-39**).



Figure 7-39: View north-east across the outcrop towards Whiteside. Dark colour at the base suggests turf has retreated.



Figure 7-40: Distinctive natural patterning on rock surface.

The upper surface of the outcrop is carved with more than a hundred cup-marks which vary in size from 2-18 cm in diameter, the deepest being 6 cm. A small number of cups are elongated or oval, and there are two linked 'dumb-bell' pairings, but no grooves or cup-and-ring motifs as at Patterdale. The larger cups hold water and in some cases this has smoothed the interior surface (**Figure 7-46**). In some, weathering of surface has revealed the bedding planes of the slate, such that the sides of the cups appear ridged with uneven surfaces; no peck marks are visible. The carvings are divided into five discrete groups, the largest, Group V, comprising 55 cups. The majority of the motifs are positioned along the upper part of the slope to the north, and along the quarried edge (more may have been lost to quarrying). Patterns of cups are not readily apparent although in Group II, in the lower part of the panel, two rows of four cups run parallel along either side of a fissure in a 'offset domino' arrangement (**Figure 7-45**).



Figure 7-41: Cup-marks at Low Park.



Figure 7-42: Carved area of the surface, looking north towards the Vale of Lorton.

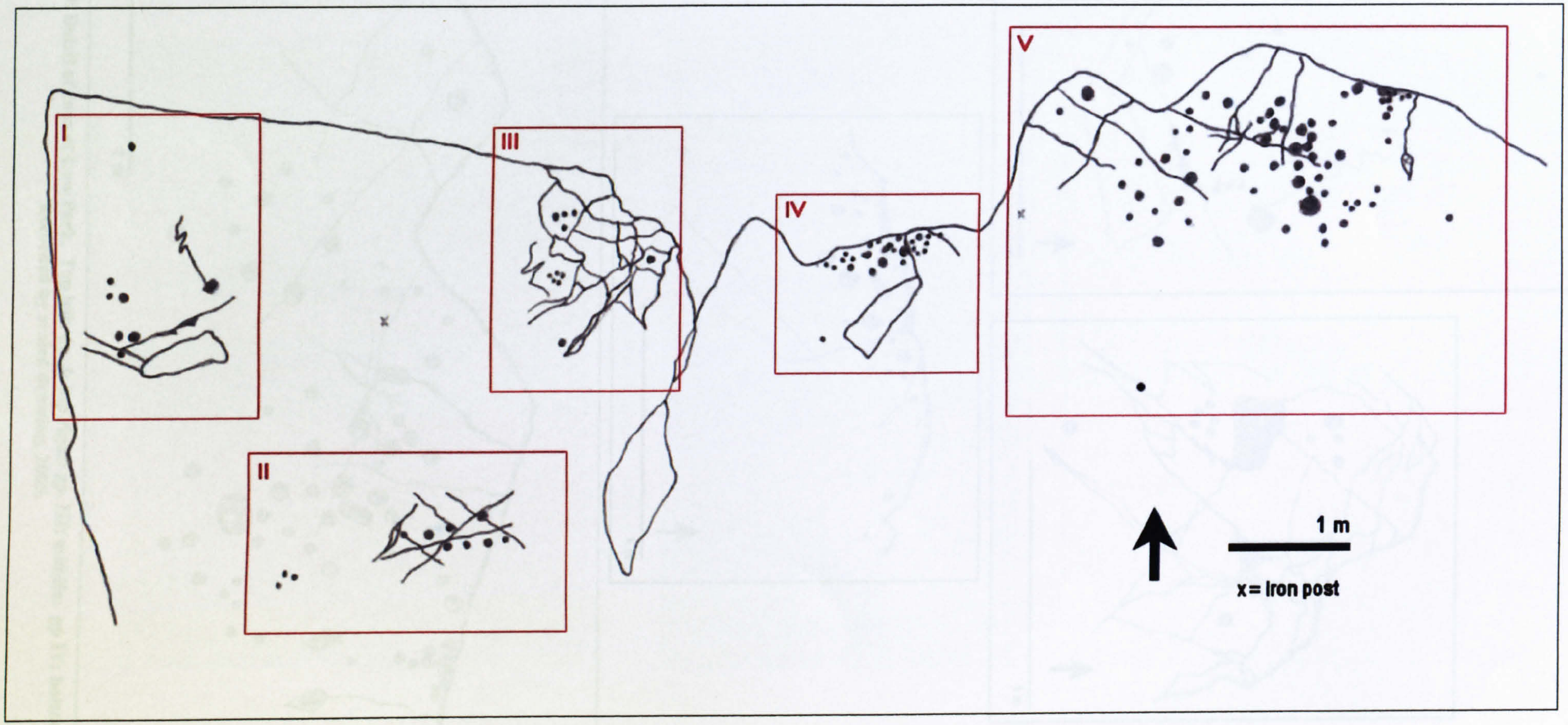
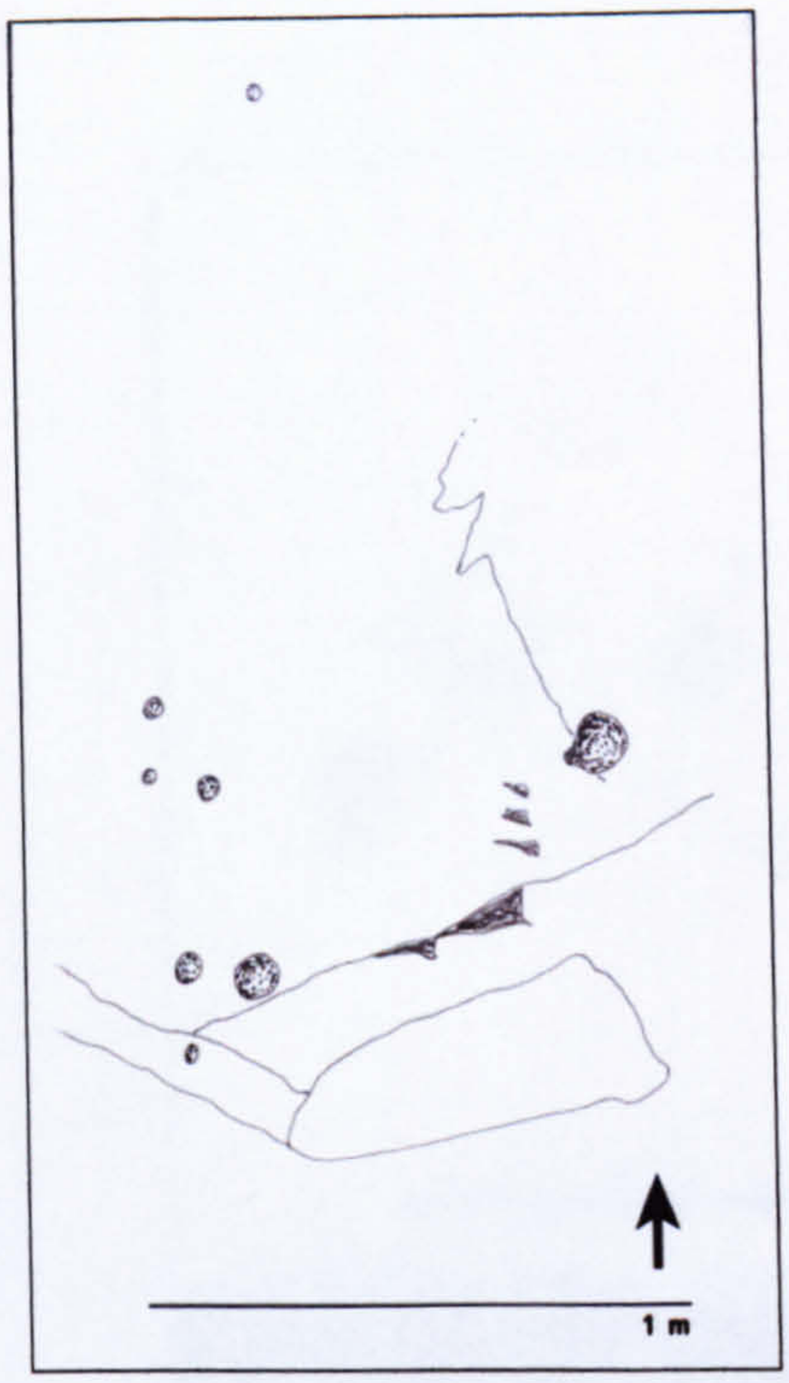
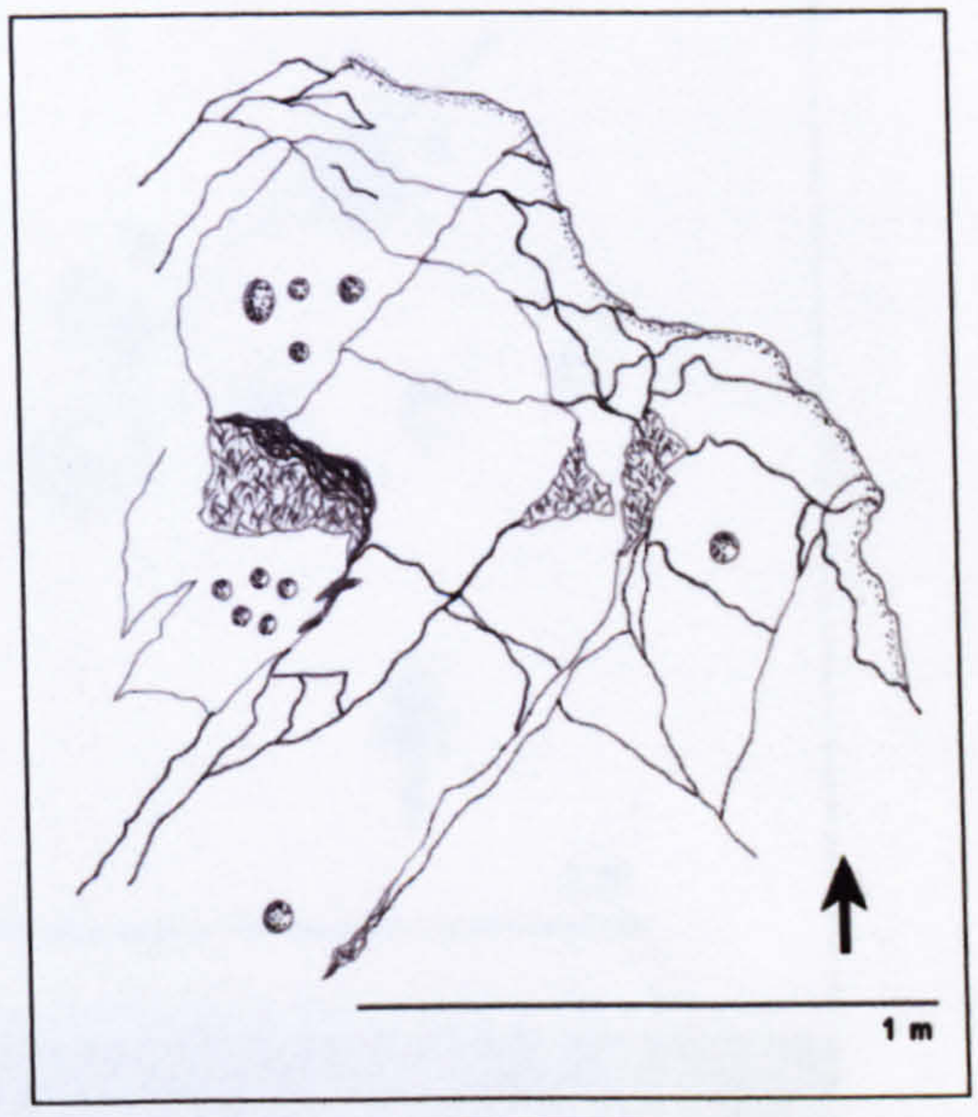


Figure 7-43: Groupings of cups at Low Park outcrop, with major natural fissures. Recorded by scaled drawing, 2005.





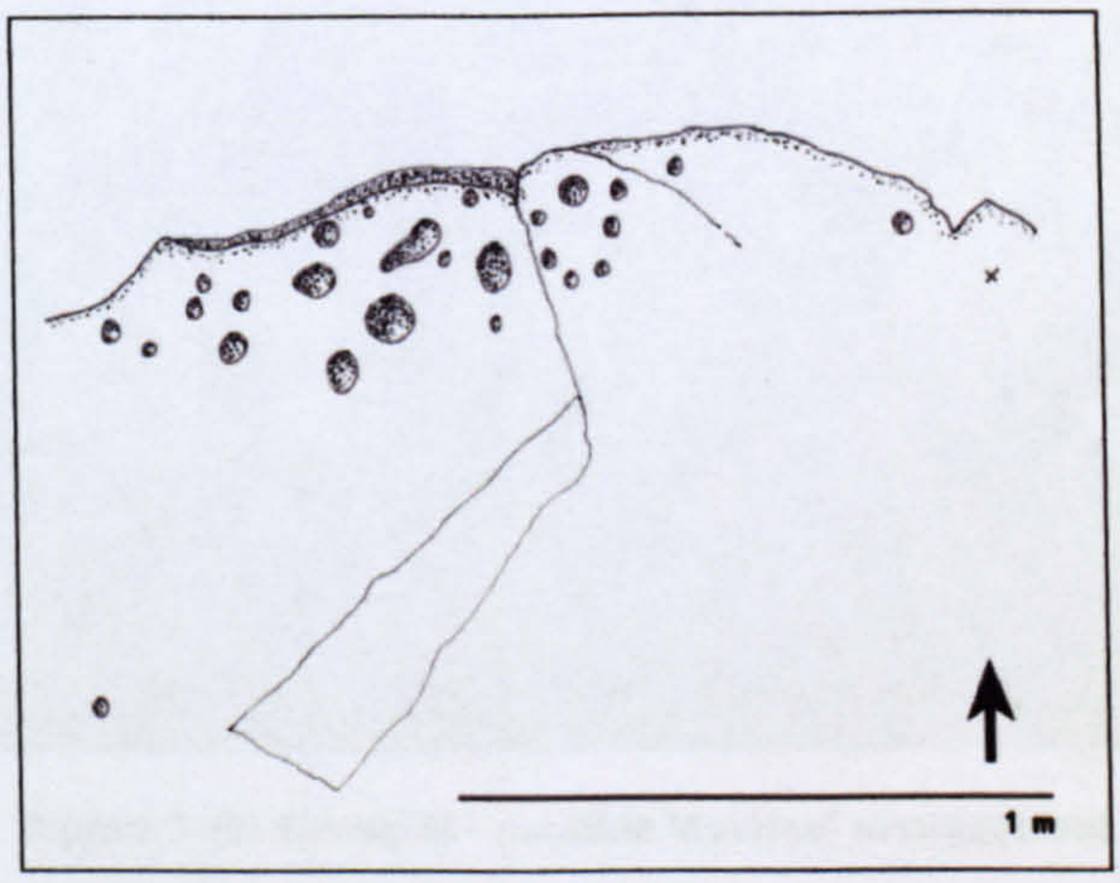
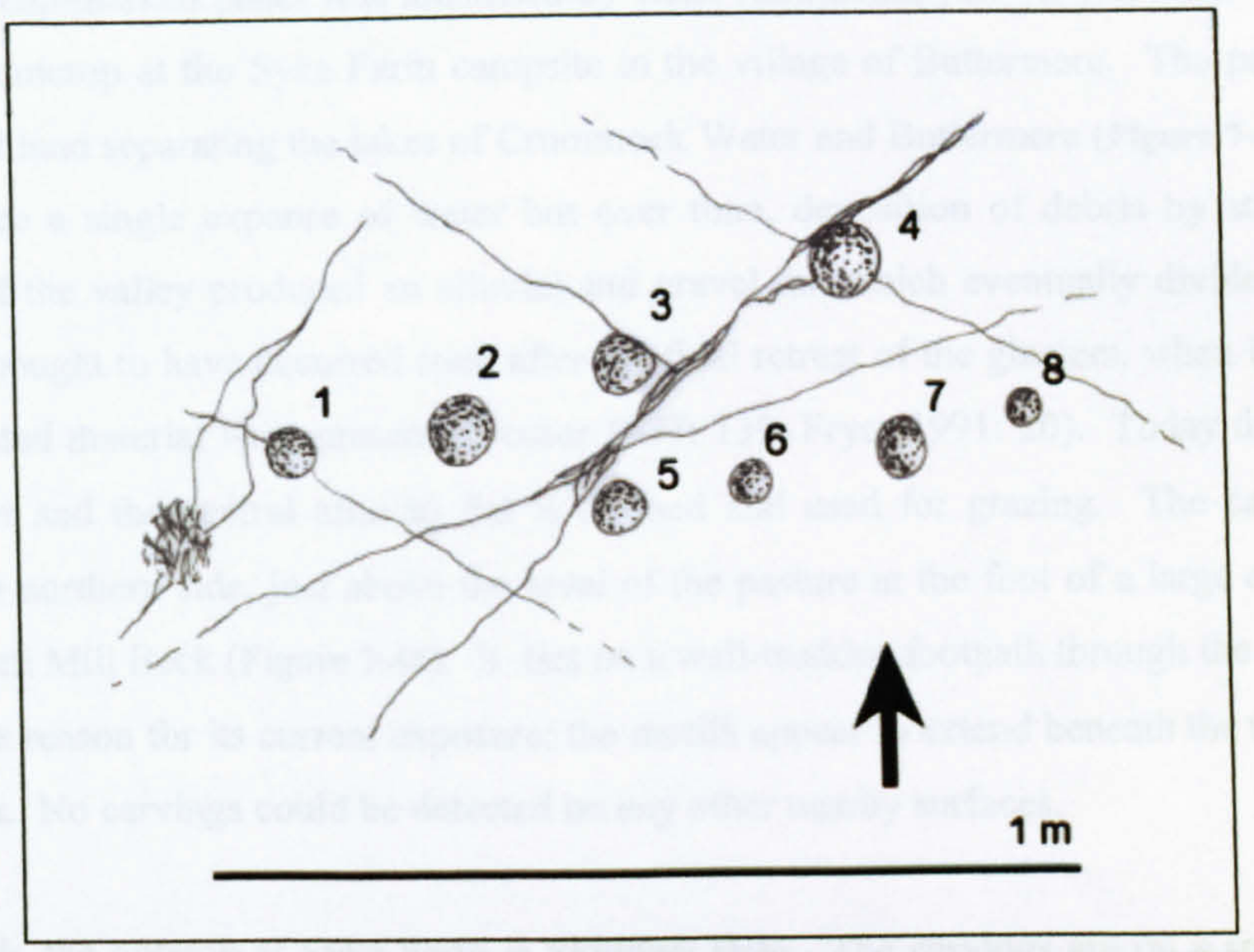




Figure 7-44: Detail of cups at Low Park. Top left: gp. I; top right: gp. III; middle: gp IV; bottom: gp. V. Recorded by scaled drawing, 2005.



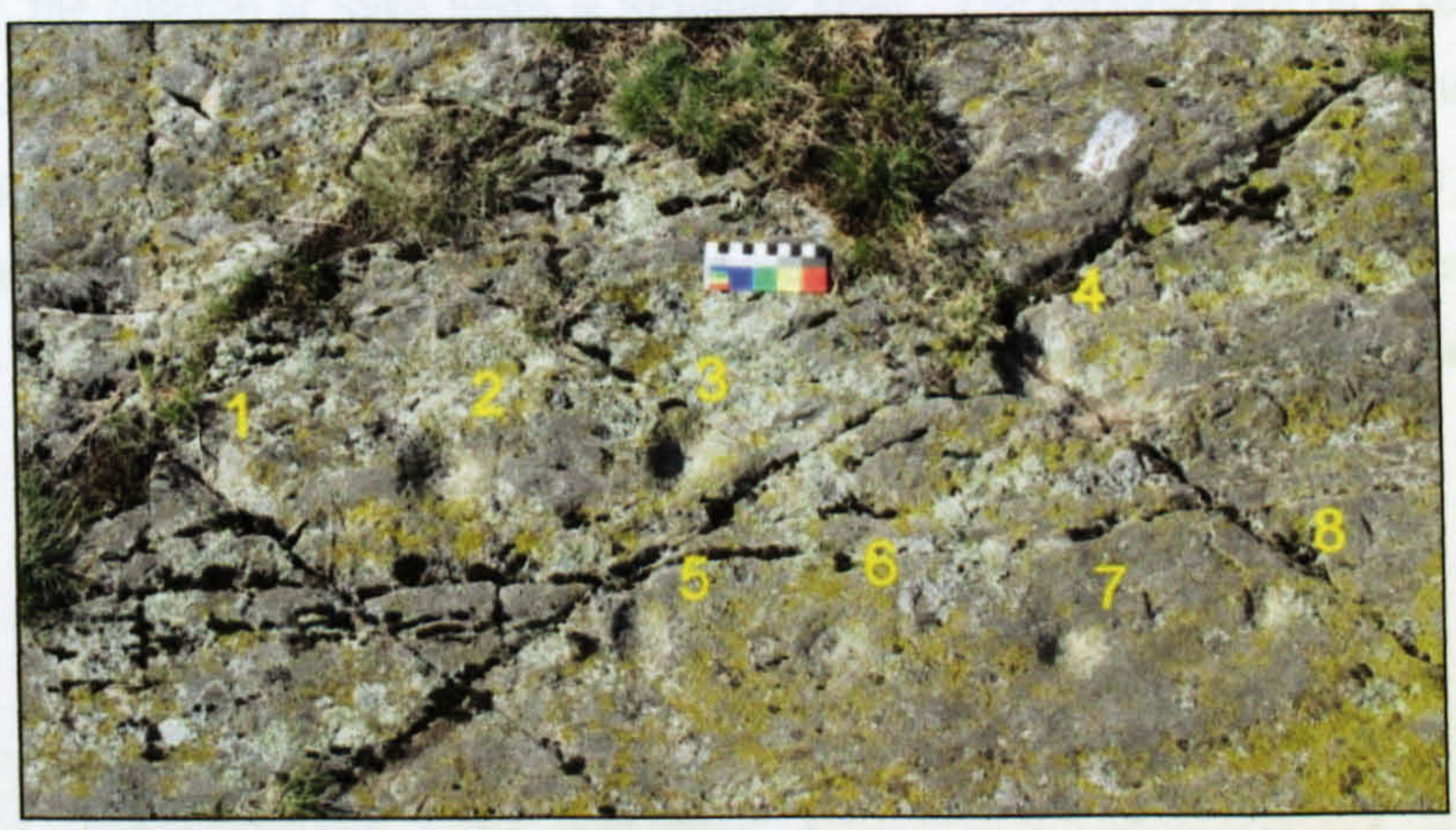


Figure 7-45: Group II - possible 'domino' arrangement.



Figure 7-46: Deep cup (Group V), smoothed by water.

7.1.3 Syke Farm Campsite, Buttermere

In Oct 2004 a cup-marked panel was identified by Niall Hammond, just 4.3 km south-south-east of the Low Park outcrop at the Syke Farm campsite in the village of Buttermere. The panel lies on a small stretch of land separating the lakes of Crummock Water and Buttermere (**Figure 7-47**). The two lakes were once a single expanse of water but over time, deposition of debris by streams on the western side of the valley produced an alluvial and gravel fan which eventually divided them. The separation is thought to have occurred soon after the final retreat of the glaciers, when large amounts of unconsolidated material were present (Prosser 1977: 139; Fryer 1991: 20). Today the lake shores are 1 km apart and the central alluvial flat is drained and used for grazing. The carved panel is situated on the northern side, just above the level of the pasture at the foot of a large outcrop, just a few metres from Mill Beck (**Figure 7-48**). It lies on a well-trodden footpath through the campsite, and this may be the reason for its current exposure; the motifs appear to extend beneath the turf to the side of the footpath. No carvings could be detected on any other nearby surfaces.

Like Low Park, the outcrop at Syke Farm is Skiddaw slate. The carvings are on a small horizontal area measuring 1.4 m by 0.7 m (**Figure 7-50**). At least fourteen cups are visible, plus one unusual motif which appears as a ring with a raised centre, although this may be a larger cup which is incomplete (**Figure 7-51**). Two linked pairs of cups are also present. A large natural fissure may have been enhanced. The cups are grouped on the southern side of the panel but no pattern is apparent.



Figure 7-47: Location of Syke Farm panel.



Figure 7-48: Syke Farm panel with Mill Beck in foreground.

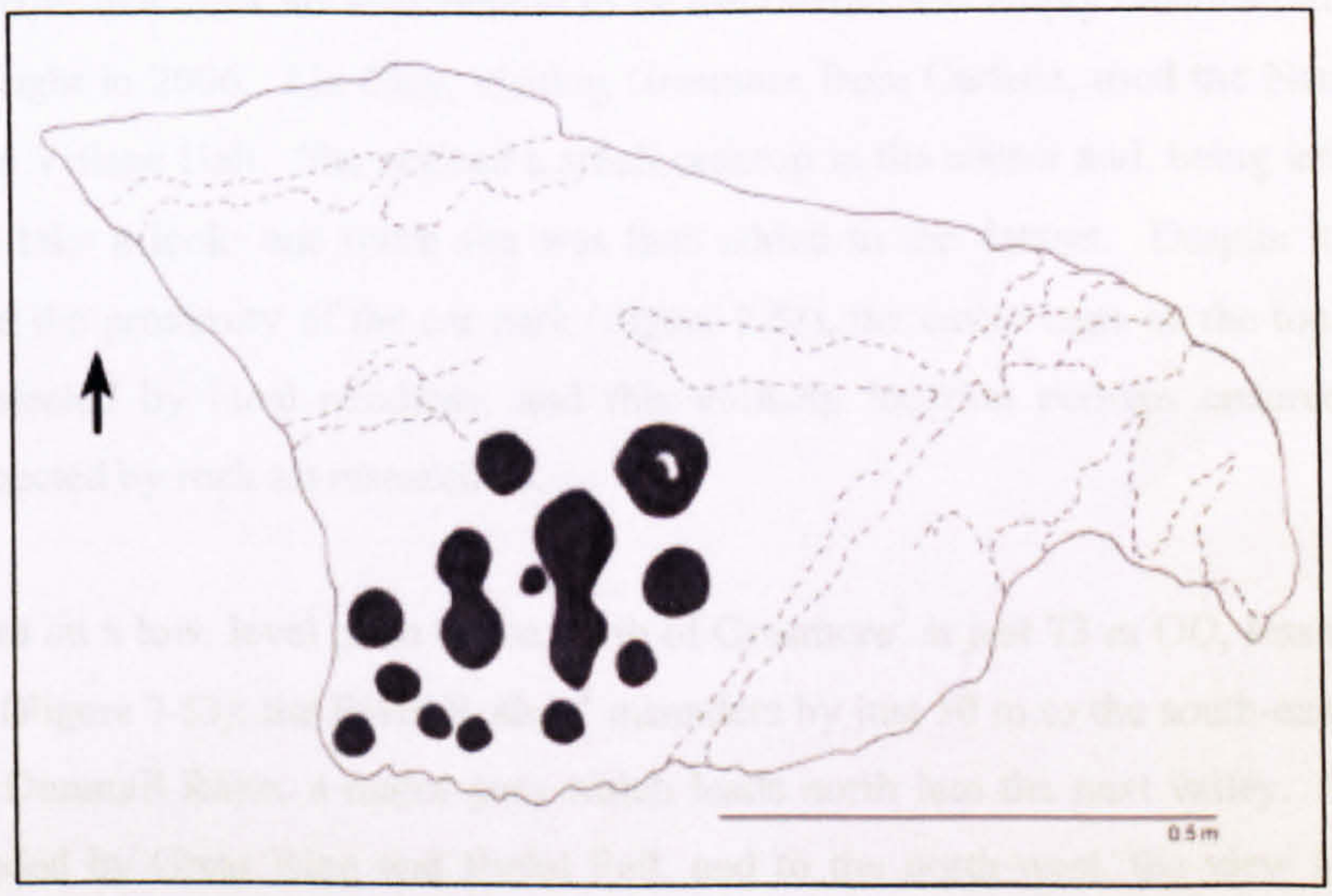


Figure 7-49: Plan view of the Syke Farm panel, recorded by scaled drawing.

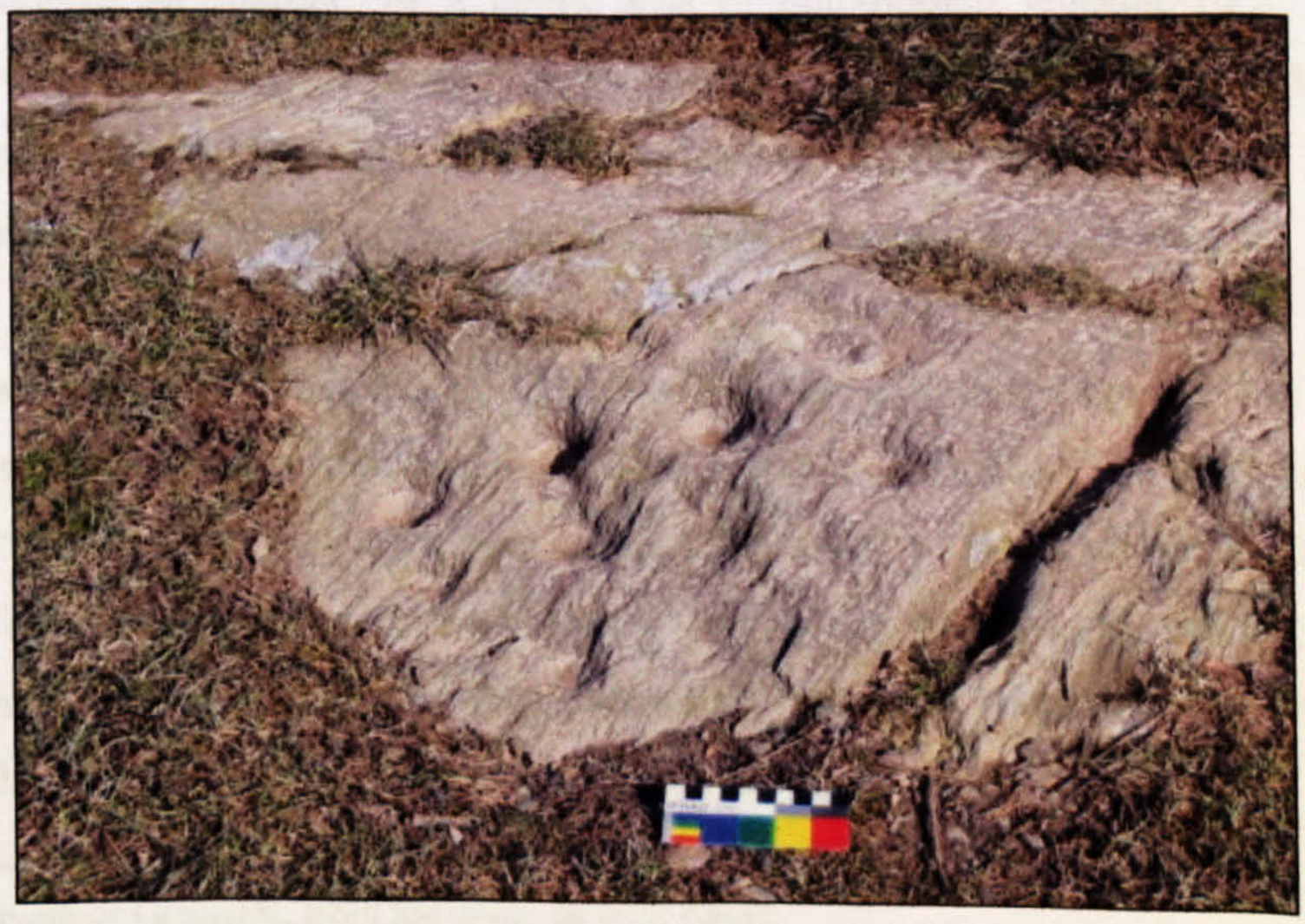


Figure 7-50: Syke Farm panel. Additional motifs lie beneath the turf to the left.

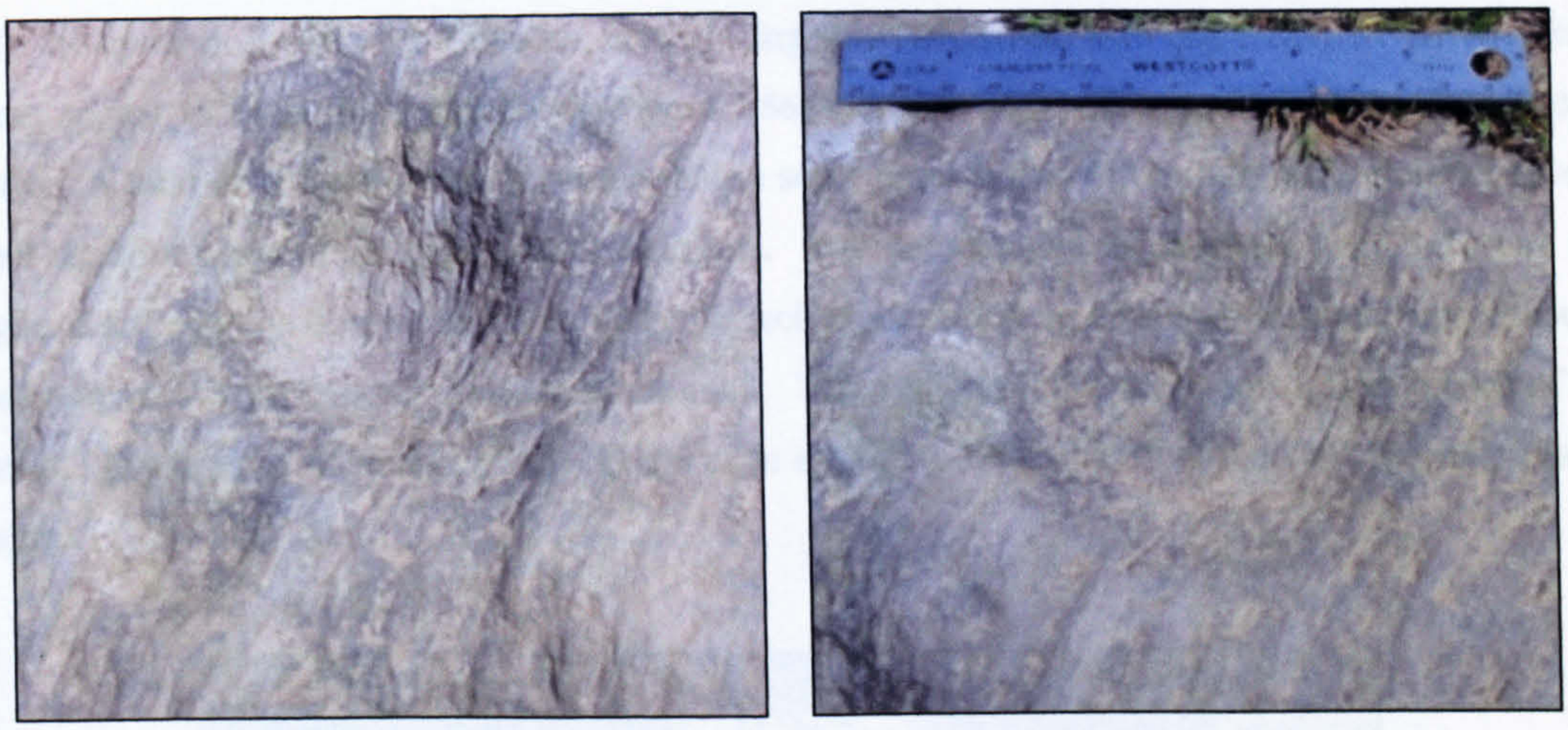


Figure 7-51: Detail of motifs at Syke Farm.

7.1.4 Broadgate Park, Grasmere

The fact that major new rock art sites remain to be discovered was amply demonstrated when a new panel came to light in 2006. Liz Clay, visiting Grasmere from Carlisle, used the National Trust car park next to the Village Hall. She noticed a small outcrop in the corner and, being interested in rock art, decided to take a look: one more site was thus added to the dataset. Despite its location in a public park and the proximity of the car park (**Figure 7-52**), the caved cups on the top of the outcrop remained undetected by local residents, and this unlikely location perhaps ensured it was never previously inspected by rock art researchers.

The outcrop lies on a low, level plain to the north of Grasmere[3] at just 73 m OD, less than 1 km from the lake shore (**Figure 7-53**); the River Rothay[4] meanders by just 50 m to the south-east, flowing from the slopes of Dunmail Raise, a major pass which leads north into the next valley. To the east, the valley is bounded by Great Rigg and Rydal Fell, and to the north-west, the view is dominated by Helm Crag, crowned by its distinctive rock formation 'The Lion and the Lamb'. The carved outcrop might be considered an 'outlier' of a larger area of outcropping volcanic rock which extends northwards towards Helm Crag, and may be the only remaining of several others which have been cleared or quarried for building. An inspection of outcrop further north within the grounds of the Youth Hostel at Burthalyp Howe yielded only one possible cup-mark (see Chapter 5).

The cup-marked outcrop measures 8 m by 12 m, reaching 4 m at its highest point. The south, east and west sides are steep and craggy, and may have been subject to quarrying. The north face slopes more gently (**Figure 7-54**) in a series of steps, broadening at the top to a 'T' shape. The surface is glacially-smoothed but the rock is pitted due to differential weathering of minerals, and is criss-crossed by natural fissures. The area immediately surrounding the outcrop is wooded, and turf and moss cover large parts of the surface.

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[3] Formerly Gresmere or Grismere, from the *grise*, or wild swine

[4] The name Rothay derives from the Old Norse 'Rathui' meaning 'the red one', which was possibly applied to the river trout.

Only the uppermost part of the smooth, north-facing slope is carved, with cup-marks of various sizes. These appear to be in three groupings (**Figure 7-56**) although removal of turf may reveal additional motifs. A total of 106 cups were recorded, but in some cases it was difficult to differentiate between small shallow (weathered) cups and erosion pits. The cups ranged in diameter from 3-12 cm, the largest also being the deepest at 2 cm. Possible peck marks could be discerned in some cups although these may reflect the irregular texture of the rock. Three 'dumb-bells' were noted, one in each of the groups. In the most southerly group (I) the cups appear to be focussed around a 'star' of crossing fissures.



Figure 7-52: Broadgate Park, Grasmere.
A rock art site with its own pay and display car park!



Figure 7-53: Location of Broadgate Park outcrop.



Figure 7-54: Smooth, sloping north face, without carvings.



Figure 7-55: Upper surface with cup-marks (Group I) and natural fissures.

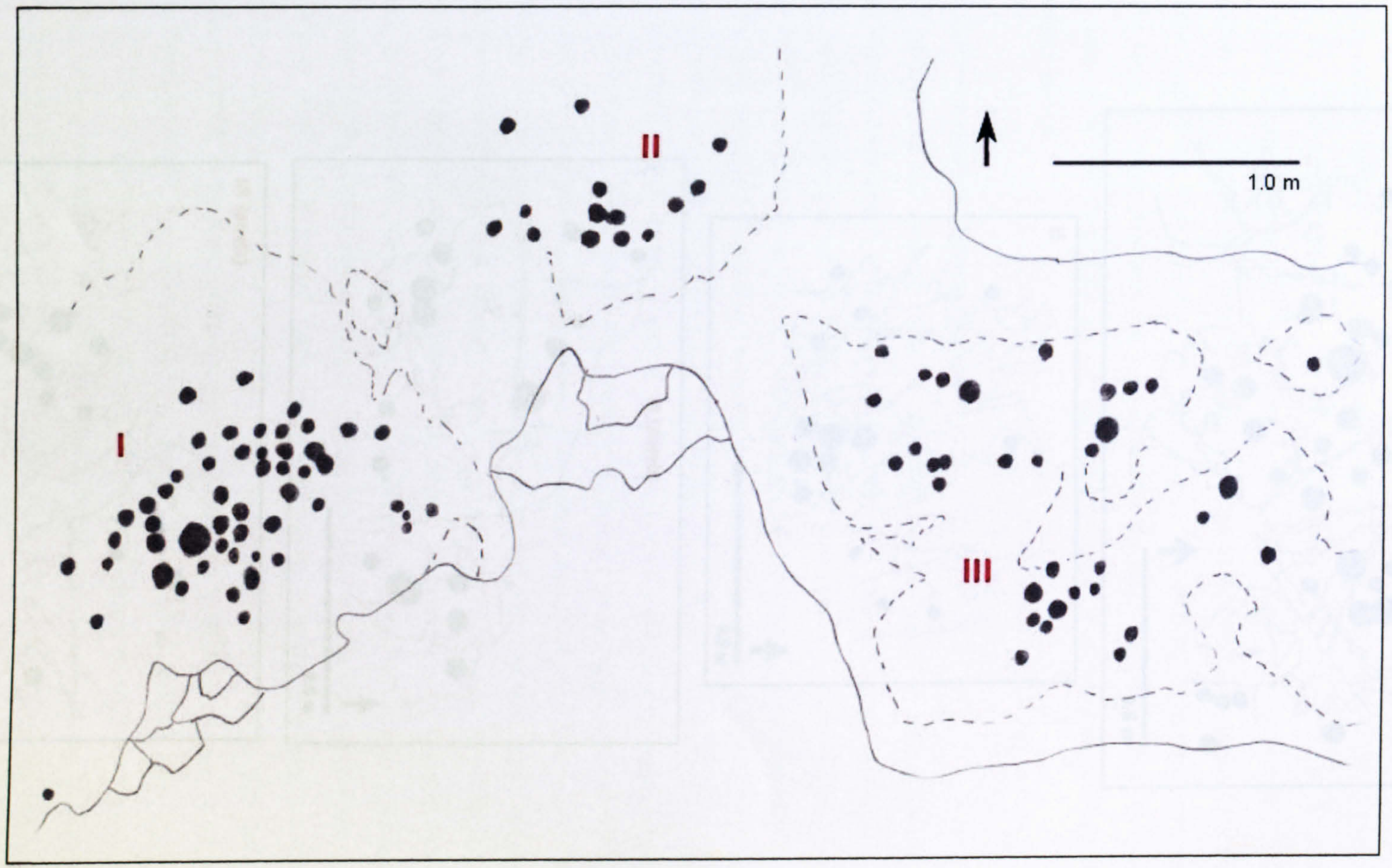
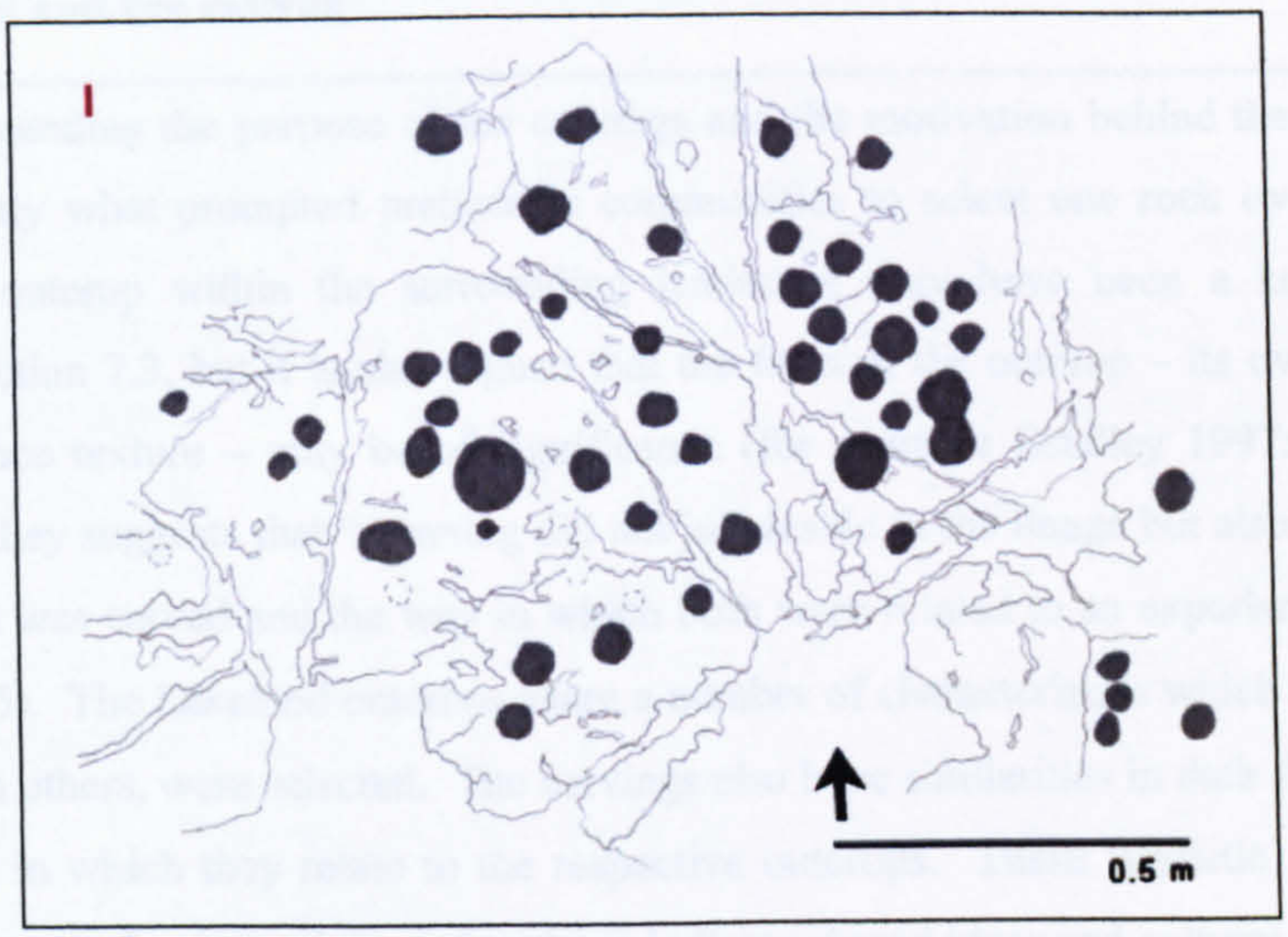
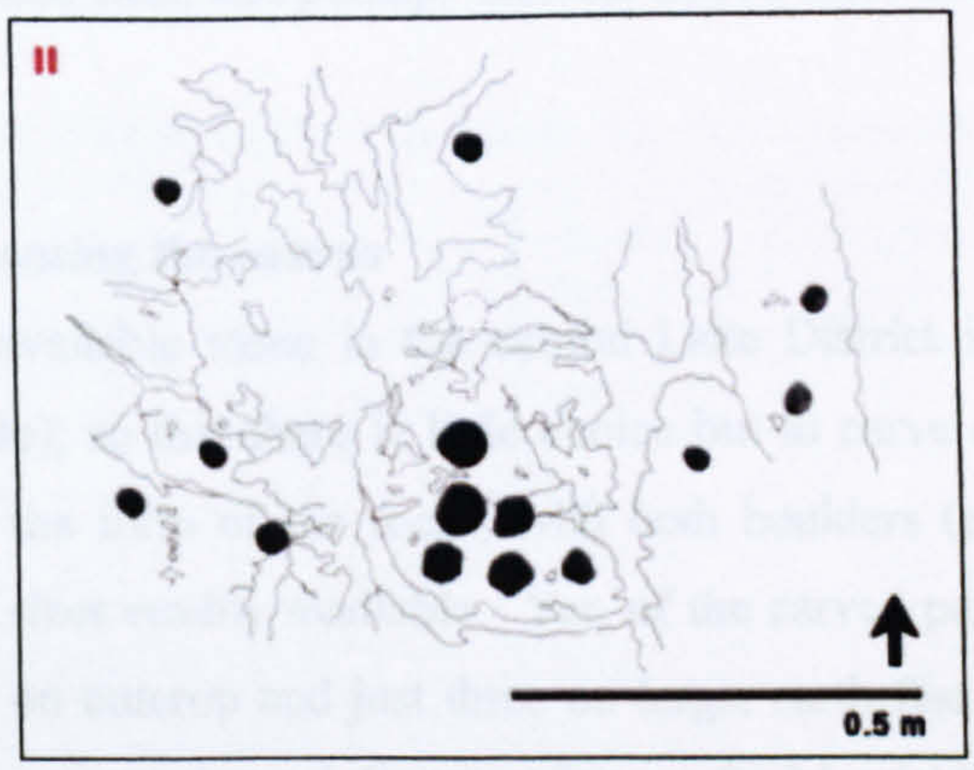
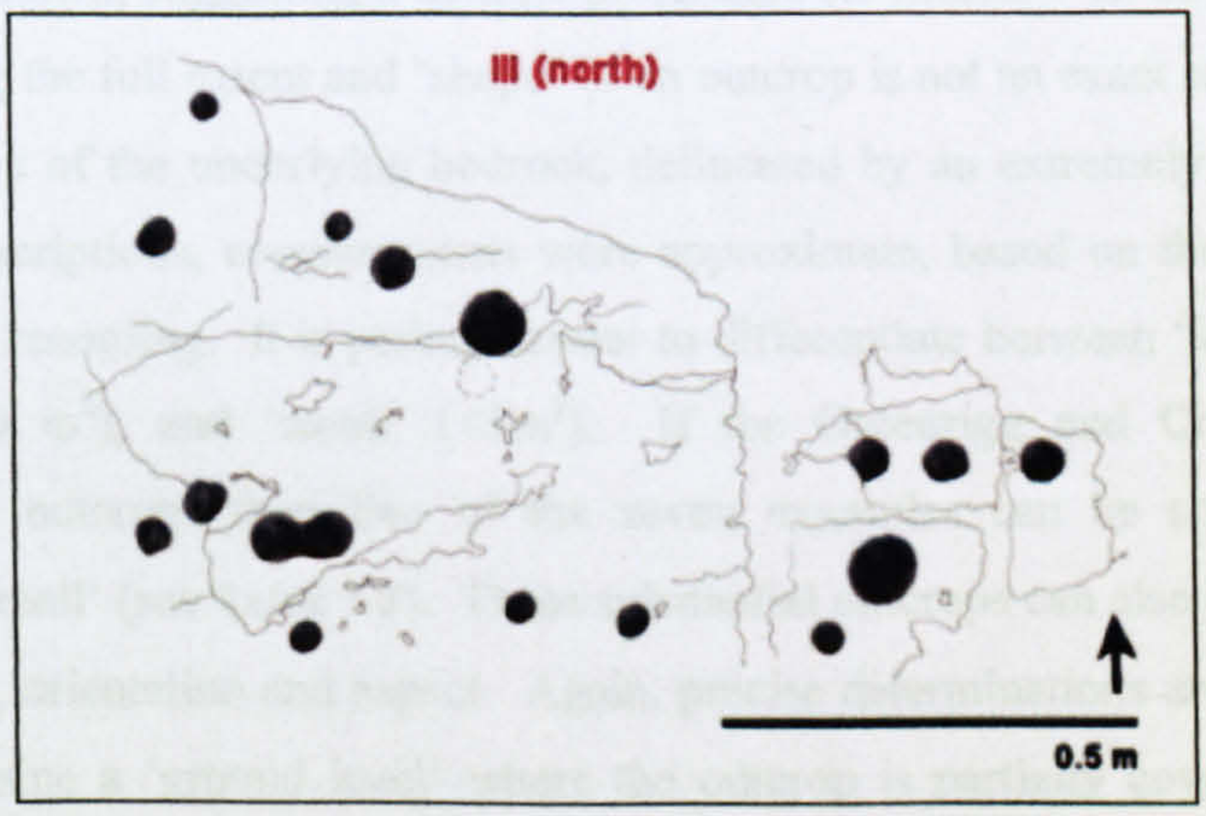


Figure 7-56: Plan view of Broadgate Park carvings, recorded by tracing. Dotted lines indicate edge of turf. Recorded by tracing, 2006.







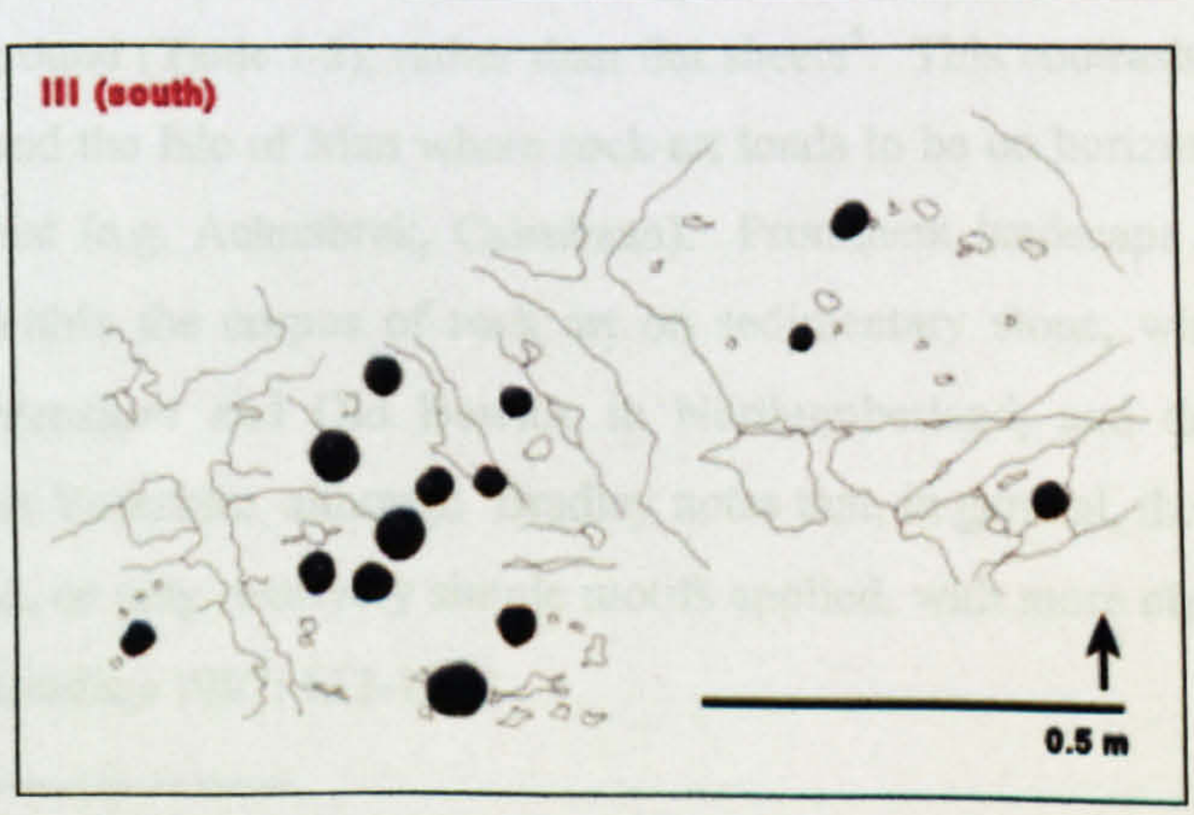


Figure 7-57: Detail of carved areas at Broadgate Park. Recorded by tracing, 2006.

7.2 The carvings and the canvas

Central to understanding the purpose of the carvings and the motivation behind their creation is the question of exactly what prompted prehistoric communities to select one rock over another. The position of the outcrop within the surrounding landscape may have been a key factor and is considered in Section 7.3, but it is also argued that the form of the outcrop – its overall size, shape, colour, and surface texture – may be of significance (for example Bradley 1997: 132-135; Tilley 2004: Ch. 4). Tilley suggests that "meaning did not just reside in the image but also in relation to the stone in which it was carved and the way in which both were related to an experience of landscape" (Tilley 2004: 215). The Lakeland outcrops share a number of characteristics which may suggest why these, rather than others, were selected. The carvings also have similarities in their form, composition and in the ways in which they relate to the respective outcrops. These 'stylistic' connections may reflect a common role for these sites, and perhaps indicate shared ideas and cultural links between the Lake District valleys.

7.2.1 Carved outcrops: choosing the canvas

The vast majority of the available stone in the central Lake District is either igneous (BVS) or metamorphic (Skiddaw slate), so that there is little choice but to carve onto hard rock. There are, however, more options in the form of the rocks, with both boulders (earth-fast and portable) and outcrops of all shapes and sizes readily available. Yet, of the carved panels currently known in the High Fells area, seven are on outcrop and just three on large, earth-fast boulders. No examples on smaller boulders are known, suggesting a definite preference for Morris' "un-severed, living" surfaces (1981: 176). Defining the full extent and 'shape' of an outcrop is not an exact science: the target is by definition an extension of the underlying bedrock, delineated by an extremely variable turf-line. In the preceding site descriptions, measurements were approximate, based on the state of the exposed surface at the time of recording. It is perhaps easier to differentiate between 'large' (a footprint >20 m^2), 'medium' (1-20 m^2), and 'small' (<1m^2). If the Greenrigg and Crookabeck groups are considered as single outcrops then five of the seven examples can be considered 'large', one 'medium', and one 'small' (see **Table 7-2**). These substantial outcrops can also be considered in terms of their shape, height, orientation and aspect. Again, precise determinations are problematic as it can be difficult to determine a 'ground level' where the outcrop is partially covered by vegetation, or emerges from rising ground (**Table 7-2**), rather than flat sheets[5]. This contrasts with carved outcrops in Galloway, Argyll, and the Isle of Man where rock art tends to be on horizontal or slightly sloping exposed sheets of schist (e.g. Achnabrek, Cairnbaan). Prominent landscape sites such as those in Cumbria do feature within the corpus of rock art on sedimentary stone, with examples including Roughting Linn, Lordenshaw and Old Bewick in Northumberland, and the Pancake Rock and Haystack Rock in West Yorkshire, although Bradley notes that, in general, the most spectacular rock formations are avoided, or only relatively simple motifs applied, with more elaborate carvings placed some distance away (Bradley 1997: 132-133).

[5] The exception being at Syke Farm, which lies close to the base of a much larger outcrop, isolated only by encroaching turf.

The outcrops at Low Park, Broadgate Park, Beckstones and Greenrigg have smooth sloping faces on one side levelling to flatter areas at the top, with steeper, rougher faces opposite[6] – typical of a glacially-formed 'roche moutonée'. The orientation of these distinctive outcrops is related to the direction of the ice flow (i.e. away from the central mountains), the smooth surface tending to face towards the source of the glacier (see **Table 7-2**). In all cases it is the glacially smoothed surface of the outcrop which is carved. At Greenrigg, Low Park and Broadgate Park only the upper part of the slope, towards the top of the outcrop is carved, although at Greenrigg 3 the entire surface is covered from base to top. The slopes vary up to 40 degrees to the horizontal. The percentage of exposed surface which has been carved also varies although without removal of turf it is impossible to accurately determine. If only the areas currently exposed are considered, most panels have large areas which remain free of carvings (an exception being Greenrigg 3). Three of the four sites where the panel had a pronounced slope are south-facing.

Table 7-2: Outcrop and 'panel' characteristics (For Greenrigg and Crookabeck, areas were totalled)

Site	Geol.	Orientation of outcrop (i.e. long axis)	Approx. dimensions (m)	Approx. 'footprint' of outcrop (m^2)	Average slope of carved area (deg.)	Aspect of carved area	Approx. height of carvings from base of outcrop (m)
Place Fell Cottage	BVS	N-S	3.8 x 1.4	5.13	10	None	0.5
Greenrigg	BVS	NW-SE	40.0 x 10.0	400.00	30	NE	2.0
Crookabeck	BVS	N-S	50.0 x 15.0	750.00	10	None	1.0
Beckstones	BVS	N-S	10.0 x 12.0	120.00	20	S	2.0
Low Park	Slate	N-S	24.0 x 3.8	91.20	30	S	3.0
Syke Farm	Slate	NW-SE	1.4 x 0.7	0.98	0	None	0.0
Broadgate Park	BVS	E-W	8.0 x 12.0	96.00	20	S	4.0

7.2.2 The carvings: stylistic comparisons

The Lakeland outcrops have an extremely restricted palette of motifs with plain, multiple cups dominating (**Table 7-3**). This contrasts with patterns found for carved outcrops elsewhere in Britain. In her analysis of rock art in Strath Tay, Stewart (1959) concluded that cup-marks were normally found on boulders, with more complex motifs on outcrops. This observation is supported by data from Northumberland (Bradley 1997: 79-81) and western Scotland (Morris 1981: 65) where outcrop panels display an extensive array of motifs including concentric rings, radial grooves and, at Achnabrek, the 'horned' or double spiral. In Cumbria the opposite appears to be the case: the outcrop sites are all relatively simple and the most elaborate panel so far known, at Copt Howe, is a boulder, but there are insufficient examples to allow meaningful comparisons. Further analysis by Bradley in

[6] The other panels are slightly domed, but are also glacially-smoothed.

Argyll suggests that complexity of carvings increases with altitude, the simpler carvings being found in areas likely to have sustained year-round occupation (1997: Ch. 6)[7]. The Lake District distribution fits this pattern, however the current absence of comparable sites in elevated positions prevents firm conclusions.

Table 7-3: Approximate frequency of motifs on Cumbrian outcrops (counts for Patterdale sites based on Beckensall recordings).

Site	Simple cup	Oval	'Dumbell'	Basin	Cup formations	Groove	Pecked area	Cup and ring	Total motifs
Place Fell Cottage	c.100	2	3	1	1 (zig-zag)	-	-	-	c.106
Greenrigg	c. 700	8	-	-	6 (rows)	18	-	1?	c.733
Crookabeck	c. 150	20	-	-	-	8	1	3	c.182
Beckstones	39	2	-	-	-	2	-	-	43
Low Park	105	2	2	-	1 (parallel rows)	-	-	-	109
Syke Farm	11	-	2	-	-	-	-	-	13
Broadgate Park	105	-	3	-	1 (row)	-	-	-	108
TOTAL	c. 1210	34	10	1	9	22	1	4	c. 1294

Although 'simple', the motifs of the Cumbrian outcrops are worth more detailed consideration. Cup-marks are by far the most common motif both in Britain and the rest of the world, and argued by some researchers to be the oldest surviving form of rock art with panels believed to date from the middle Palaeolithic (e.g. Bednarik 1994; Bednarik 1996; Taçon et al. 1997). In Britain, cup-marks certainly appear to have early origins with several known from early 4th millennium BC contexts such as long cairns, chambered cairns, and the capstones of megalithic tombs (e.g. Simpson 1867; Piggott 1974; Vyner 1984; Waddington et al. 1998).

On the larger outcrops at Low Park and Broadgate Park the cups are clustered in distinct groups, a common feature on extensive panels such as those of Southern Scotland (Morris 1981). There are a number of examples where cups are clearly arranged in a pattern. The offset 'domino' at Low Park is one possible composite motif, but Greenrigg 3 has the most complex arrangements with rows of cups enclosed by parallel grooves (**Figure 7-58**). Lines of cups are not uncommon in British rock art, although rows of up to seven cups of similar size, as occurs at Greenrigg, are rare. Examples include the vertical face of Old Bewick, and a cist slab at Hazelrigg both in Northumberland (**Figure 7-59**).

[7]An exception to this trend is where the lowland area in question is also the site of a significant concentrations of monuments, as at Kilmartin (Argyll). Around such areas Bradley found that carvings became more complex closer to the ritual centre (Bradley 1997: Ch. 6).

There are even fewer examples with rows of cups bounded by grooves, although the Idol Stone on Ilkley Moor (West Yorkshire) has a line of seven cups encircled by a groove (**Figure 7-60**). Parallel rows of cups like those at Greenrigg are known only on Howldale Moor, North Yorkshire (Brown & Chappell 2005: fig. 10), and the extended parallel grooves are also uncommon; a panel at Lordenshaw (4e) in Northumberland (**Figure 7-61**) is perhaps the closest in style. The grooves at Greenrigg follow the slope of the panel and this agrees with Morris' analysis of radial grooves (from the centre of a cup-and-ring motif) in Scotland, which he found to follow any slope present (Morris 1977: 13).

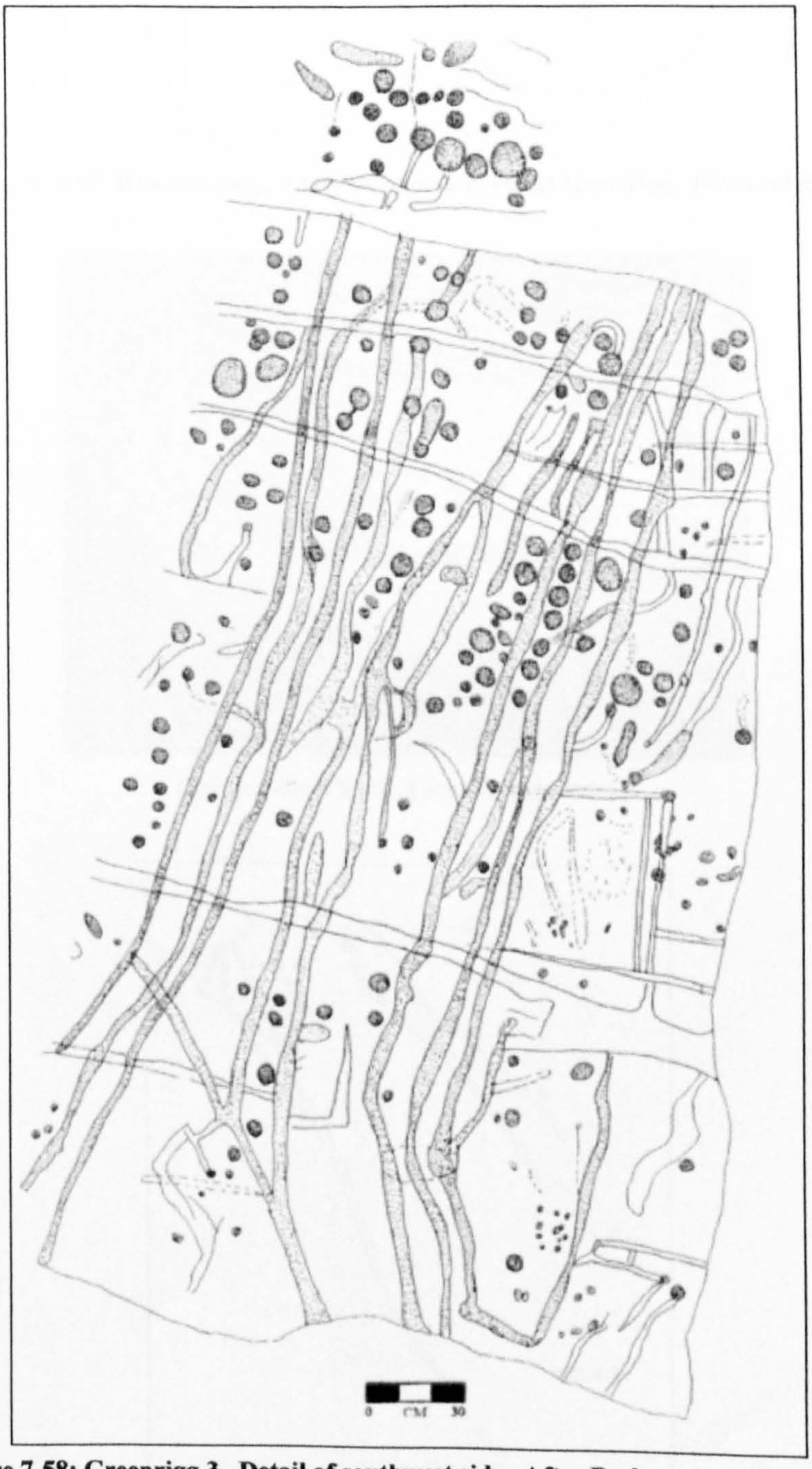


Figure 7-58: Greenrigg 3. Detail of southwest side. After Beckensall (2002: fig. 18).

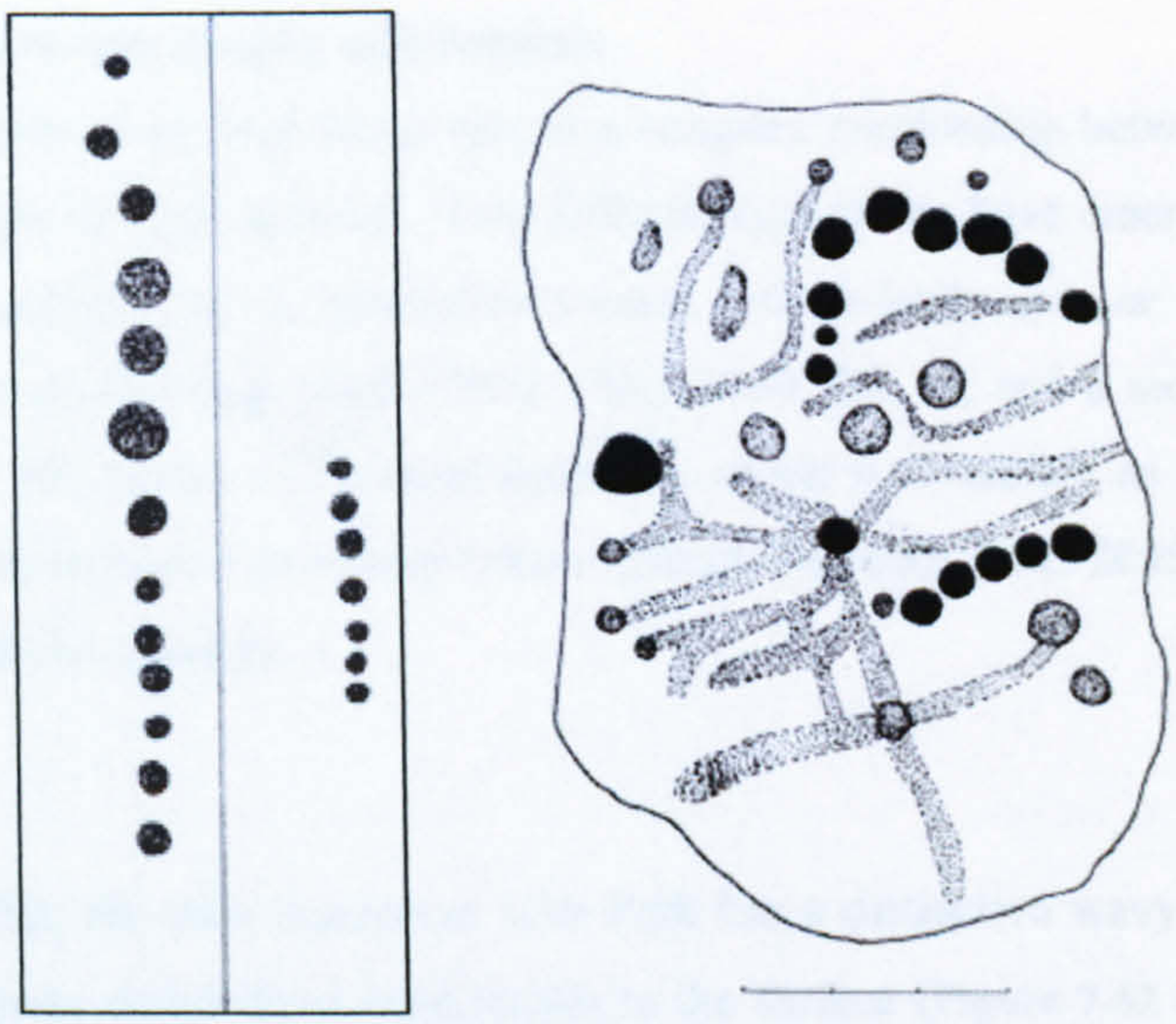


Figure 7-59: Rows of cups. Left: Old Bewick; right: Hazelrigg. (Web ref #5)



Figure 7-60: The Idol Stone, Ilkley Moor.

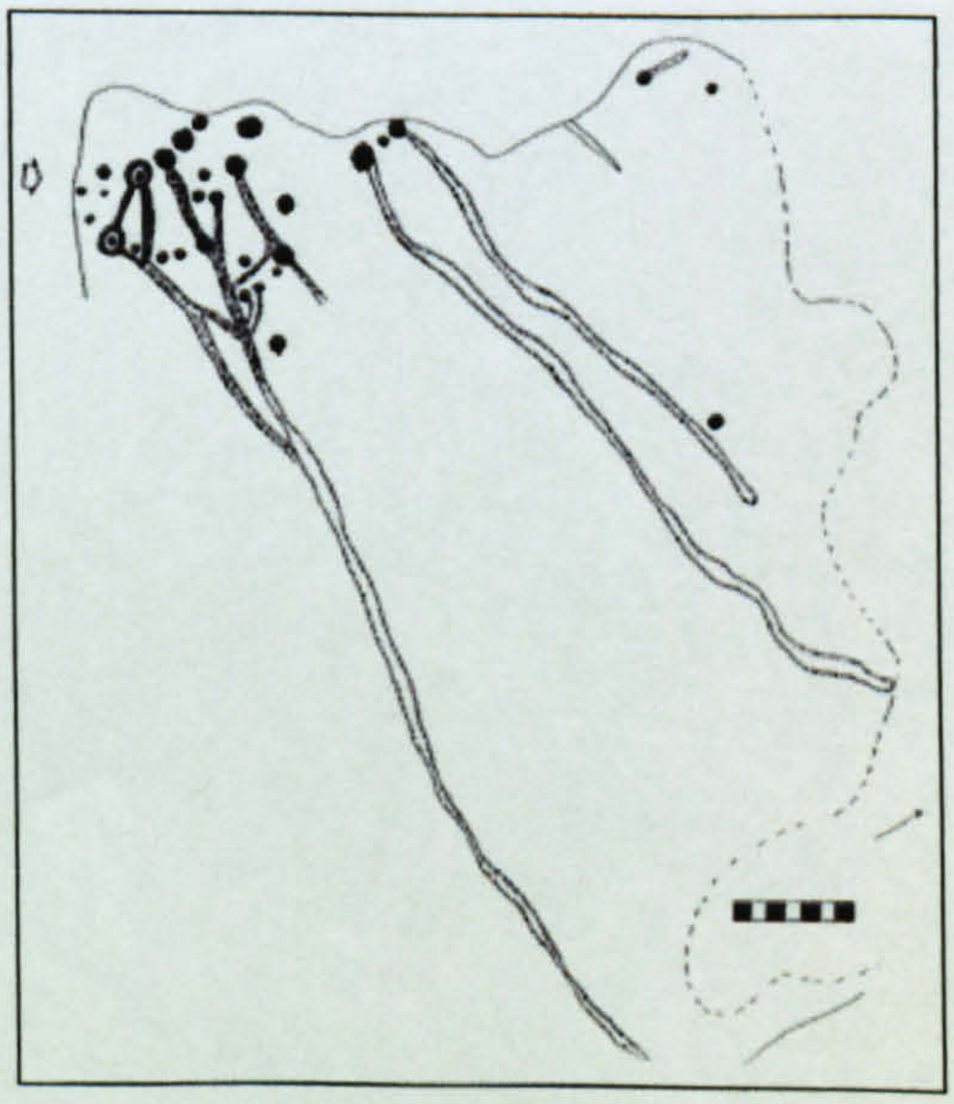


Figure 7-61: Extended parallel grooves at Lordenshaw (4e). (Web ref #5)

7.2.3 Materiality, micro-topography and mimesis

In Chapter 3 studies were described which hint at a complex relationship between the materiality of the rock surface and the carvings applied. Two different approaches have emerged: one in which the surface is itself perceived as a three-dimensional, micro-landscape or 'stage' onto which representational art is applied (e.g. Janik 2004; Tilley 2004: Ch. 4); and a second which views the 'micro-topography' – the texture and natural features – of the rock surface as inspiring imitation, or being enhanced and incorporated into compositions (Shepherd 2000; Jones 2005). Both concepts can be applied to the Lakeland outcrops.

Waves and ripples

Although relatively flat, the slate outcrop at Low Park has a distinctive wavy patterning created by folding of the rock strata which lie at right angles to the surface (**Figure 7-62** and **Figure 7-63**). The resulting rippled effect is striking, suggestive of petrified waves, and reinforced by the form of the outcrop itself, which resembles a curling white breaker, rising from a green swell (**Figure 7-64**). The upper edges of the outcrop have a rounded form, like molten larva inching forward which has been petrified (**Figure 7-63**). A number of carved outcrops which have undulating surfaces reminiscent of waves have been recorded in Scandinavia and Russia, where the surface features appear to have been incorporated into the rock art 'landscape' providing a three-dimensional backdrop for images of boats, swimmers and skiers. The absence of figures and recognisable images on the Cumbrian outcrop makes it difficult to relate the waves to the carvings as has been attempted at other similar sites, but the striking surface patterns and dramatic geological folds make the Low Park outcrop particularly distinctive. As discussed in Chapter 3 such sites may have evoked psychological attachments and become embedded in the collective memory of local people, perhaps incorporated into folklore. Indeed, discussion with residents at Low Park revealed that the outcrop is known locally as 'The Barber's Rock', a name which recalls a childhood game.



Figure 7-62: Low Park. Distinctive natural patterning on rock surface.

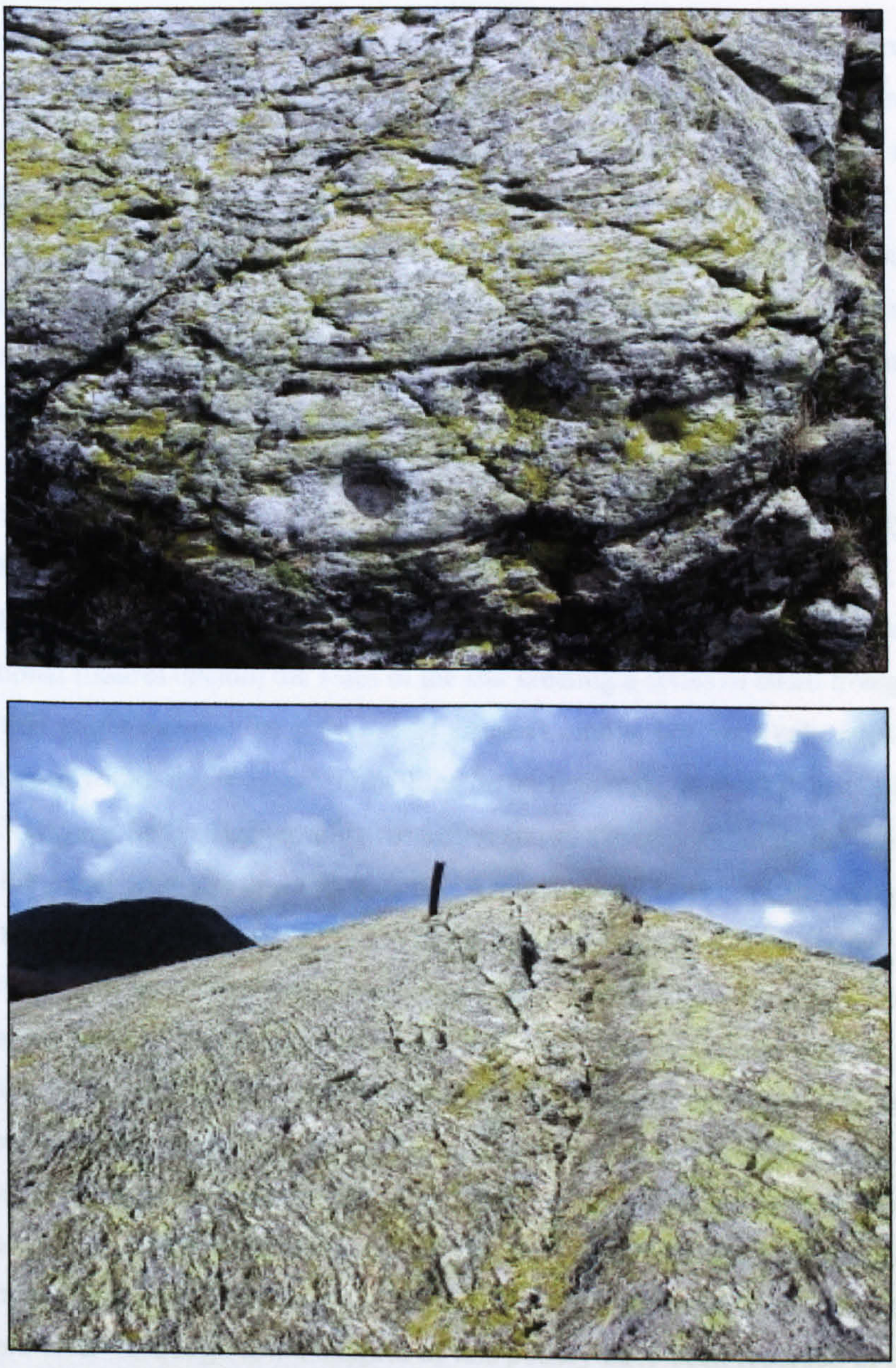


Figure 7-63: Low Park. 'Molten' appearance and ripples.



Figure 7-64: Wave-like form of Low Park outcrop

Fissures and frames

The surface of the BVS outcrops varies from a fine-grained, smooth canvas, to a more pitted, course texture which is criss-crossed by fissures. Analysis by Jones (2005) of outcrops in the Kilmartin Valley suggests that natural features such as cracks and mineral veins served as 'frames' or 'templates', the shape and size of the frame influencing the nature of the motifs carved within: complex and unusual motifs such as spirals and rosettes are associated with dense, triangular or lozenge-shaped 'frames'; multiple ring motifs with large, rectangular frames, and simple cups with smaller frames. Jones (ibid.) argues that natural features were regarded as prior images and either overwritten or incorporated.

The limited range of motifs on the Cumbrian outcrops prevents a comparable analysis however a number of relationships between the natural and carved features are worthy of note. At Broadgate Park a very distinct cluster of cups (Group I) is focussed on a 'star' formed by several converging cracks. Additional fissures enclose the sides of the star creating a series of small triangular spaces. In Jones' study this might suggest the presence of unusual motifs, but here only cups are found, the majority positioned within the 'frames' (only three lie on fissures). A similar 'star' pattern is present at Greenrigg 3 (**Figure 7-67**). Beckensall's recording shows fissures radiating from a position to the upper left of the panel with just one cup located on a crack. At Low Park the two parallel rows of cups are also focussed on crossed fissures, two of the eight cups positioned on cracks. At Greenrigg 3 a major fissure extends across the entire surface and is itself the focus of the parallel grooves which appear to emanate from it. Beckensall notes that some of the natural cracks running down the slope have been enhanced and additional grooves added in parallel, supporting Jones' argument (above) that natural features were integrated into the design. Natural cracks run at right-angles to the grooves, dividing the surface into small rectangles (**Figure 7-69**). No clear relationship between these 'frames' and the enclosed cups could be discerned from the Beckensall recording, but in all of the above examples the resulting patterns closely resemble Late Neolithic Grooved Ware decoration such as that shown in **Figure 7-70**. Although few examples of this pottery have been recorded in Cumbria, sherds of Clacton Style Grooved Ware have been found on Walney Island (Manby 1974: 4).

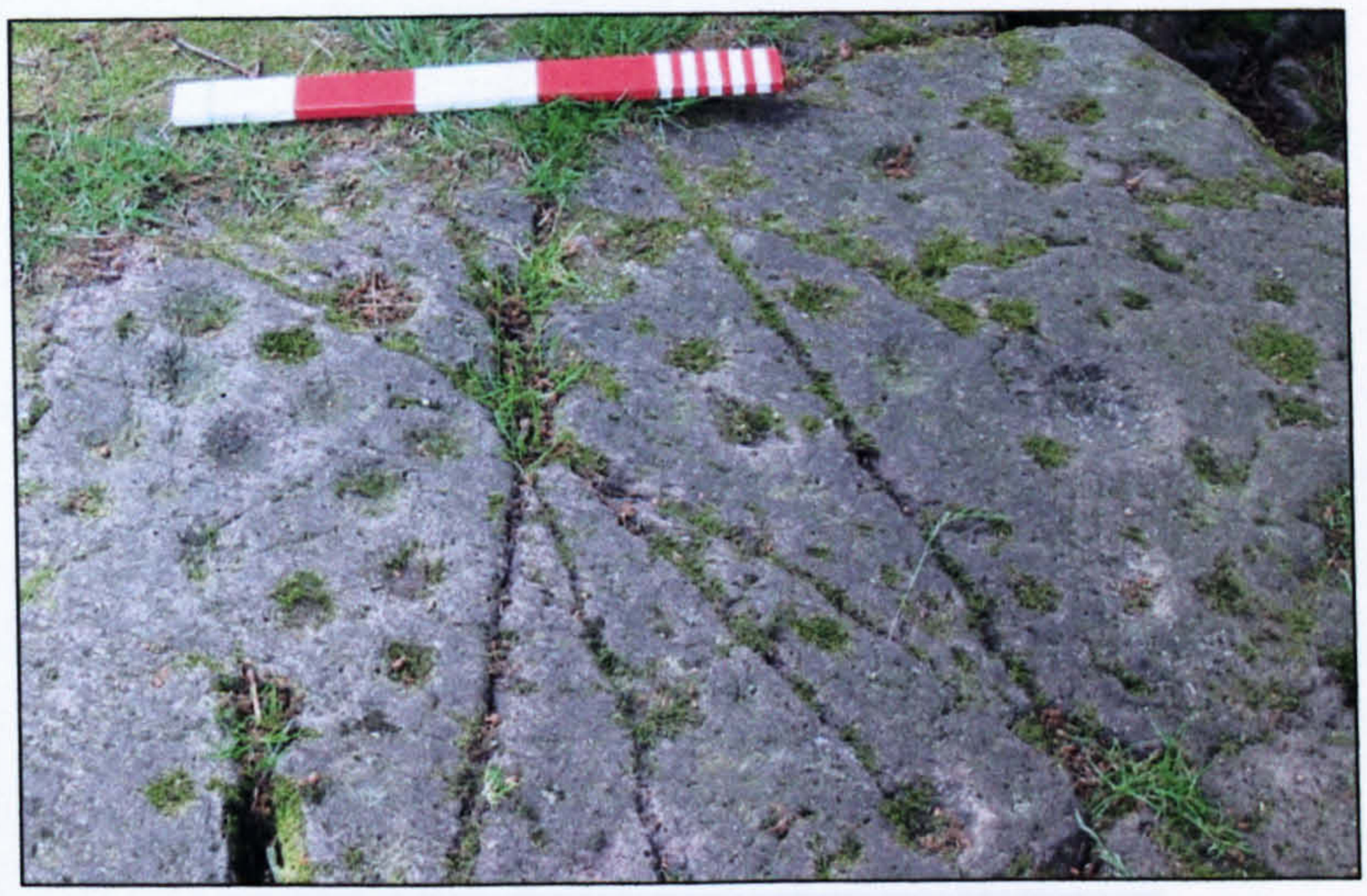


Figure 7-65: Broadgate Park: Group I looking south with fissure 'star'.

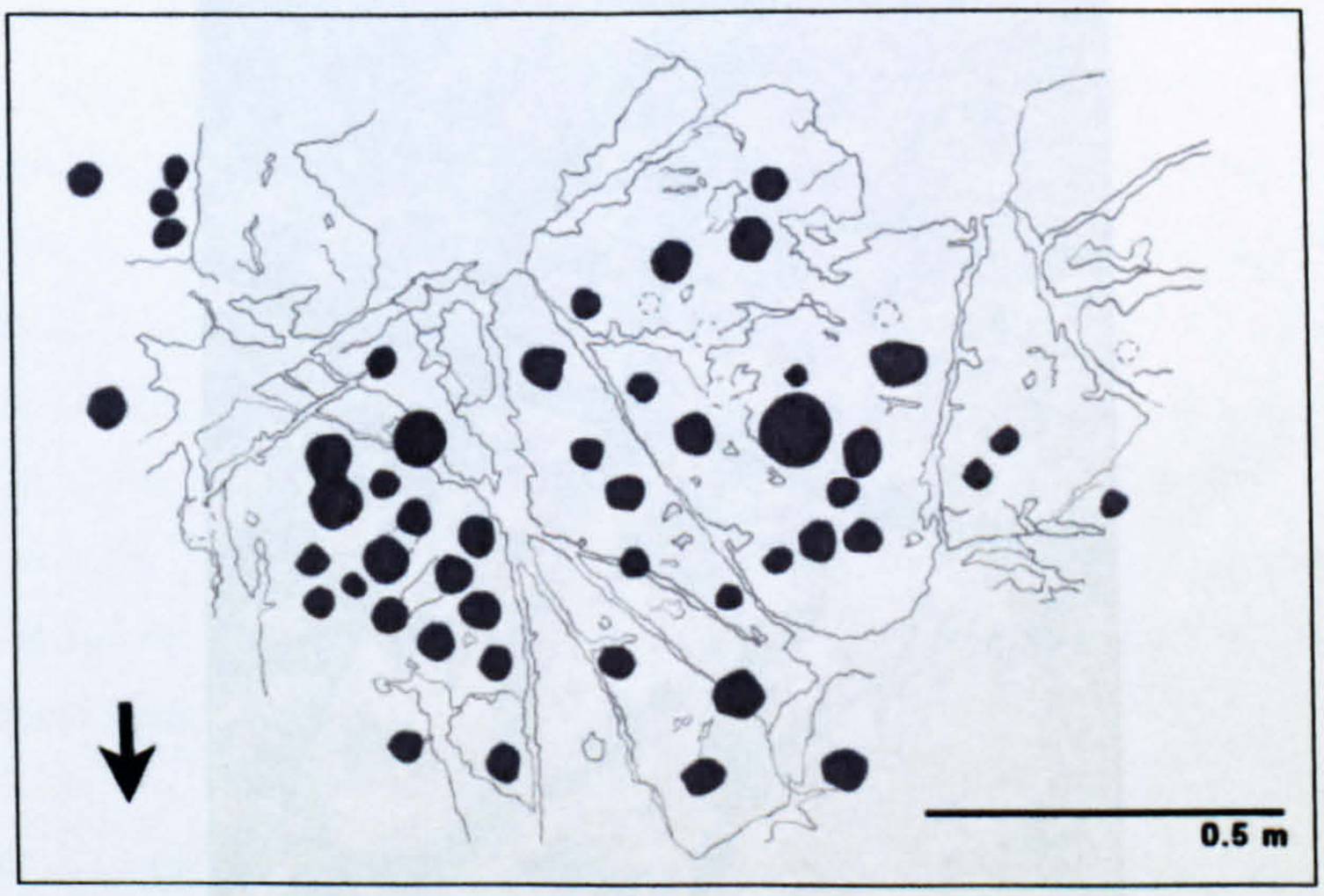


Figure 7-66: Broadgate Park. Detail of Group I with 'star' of crossing fissures.



Figure 7-67: Greenrigg 3 after Beckensall (2002: fig. 17) showing 'star' of crossing fissures, and grooves emanating from horizontal fissure.

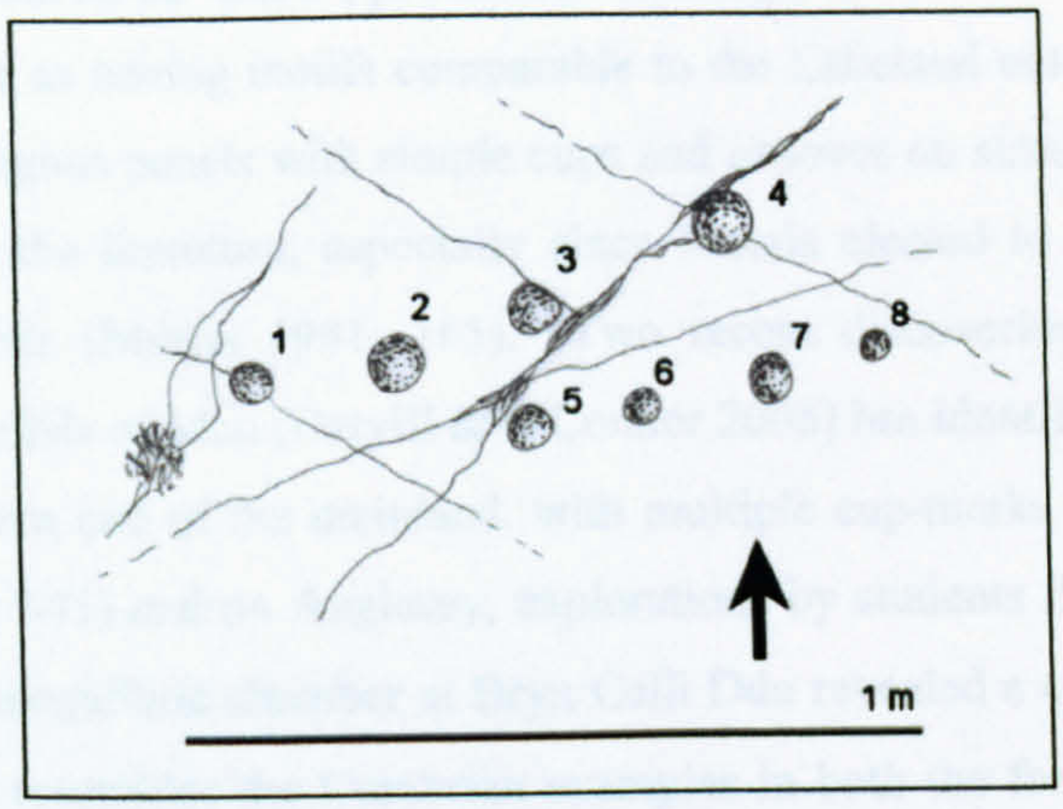


Figure 7-68: Parallel lines and fissures at Low Park.



Figure 7-69: Detail of Greenrigg 3 showing contrast between natural fissures (horizontal) and carved grooves (vertical). Photo: Tim Cook.

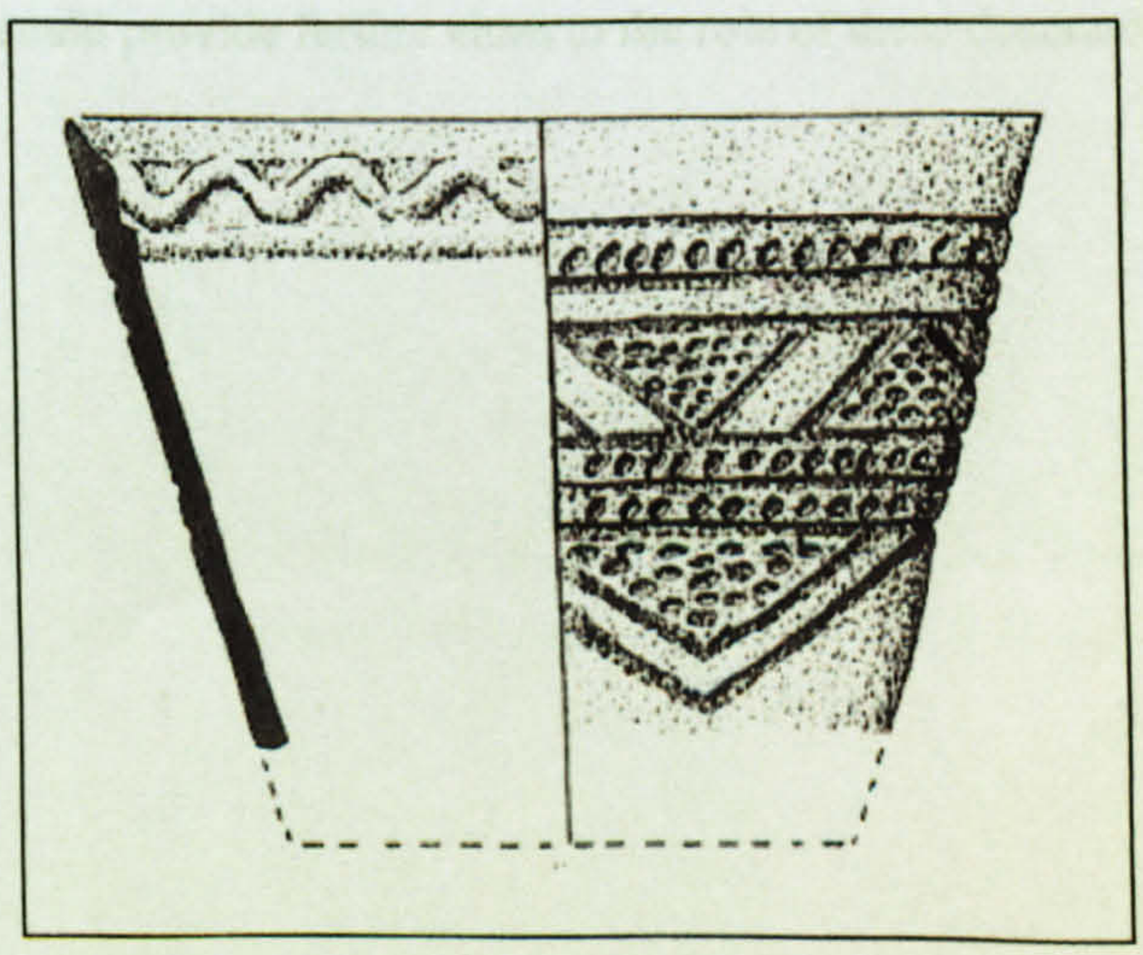


Figure 7-70: Clacton-style Grooved Ware, (After Longworth 1971).

7.2.4 Connections: cup-marks on 'hard', prominent outcrops

The examples cited above as having motifs comparable to the Lakeland outcrops were all carved on sedimentary stone. Analogous panels with simple cups and grooves on slate or volcanic outcrops are more difficult to find in the literature, especially since Morris elected to ignore panels with only simple cups or dumb-bells (Morris 1981: 165). Two recent discoveries may point to westerly connections: work on the Isle of Man (Darvill & O'Connor 2005) has identified a number of panels at Burroo Ned at the southern end of the mainland, with multiple cup-marks (and no other motifs) on exposed bedrock (**Figure 7-71**) and on Anglesey, explorations by students from Bristol University of the field adjacent to the megalithic chamber at Bryn Celli Ddu revealed a cup-marked outcrop in the adjacent field. This site resembles the Cumbrian examples in both the form of the outcrop and the restricted nature and composition of the motifs. An isolated, prominent, slate knoll comparable in size with Low Park or Broadgate Park, it has a similar glacially-smoothed slope on one side and steeper, craggy profile on the other (**Figure 7-72**). Twenty-seven cup-marks are scattered along the upper, near-horizontal part of the smooth slope, as at both Cumbrian sites. The bedding planes of the schist lie in a similar plane to that at Low Park, creating wavy patterns across the surface and producing similar ridges across the cups due to differential weathering (**Figure 7-74**). This single site is clearly insufficient to prove cultural links between the Lake District and Anglesey, but as noted in Chapter 3, prehistoric connections between coastal areas and islands around the Irish Sea are well-documented (see for example Cummings & Fowler 2004) with evidence from cultural comparisons and material distributions suggesting strong links. Yet rock art, and particularly the ubiquitous cup-mark, is a world-wide phenomenon and examples resembling the Cumbrian outcrops can also be found outside the British Isles; cultural connections drawn on the basis of style and form alone must therefore be regarded with a degree of caution.

The discussion has so far focussed on the nature of the outcrops, and on the carvings and the way in which they relate to the rock surface, but to penetrate the significance of these sites it is vital to look beyond the rocks, at their situation within both the immediate environment and the wider landscape. The context of the panels with respect to the natural, physical topography and to known archaeological features could provide further clues to the role of these decorated outcrops.



Figure 7-71: Cups in slate outcrop at Burroo Ned, Isle of Man. Photo: A. Stanford.



Figure 7-72: The cup-marked outcrop at Bryn Celli Ddu, Anglesey.



Figure 7-73: Bryn Celli Ddu: the smooth upper surface. Photo: A. Stanford.

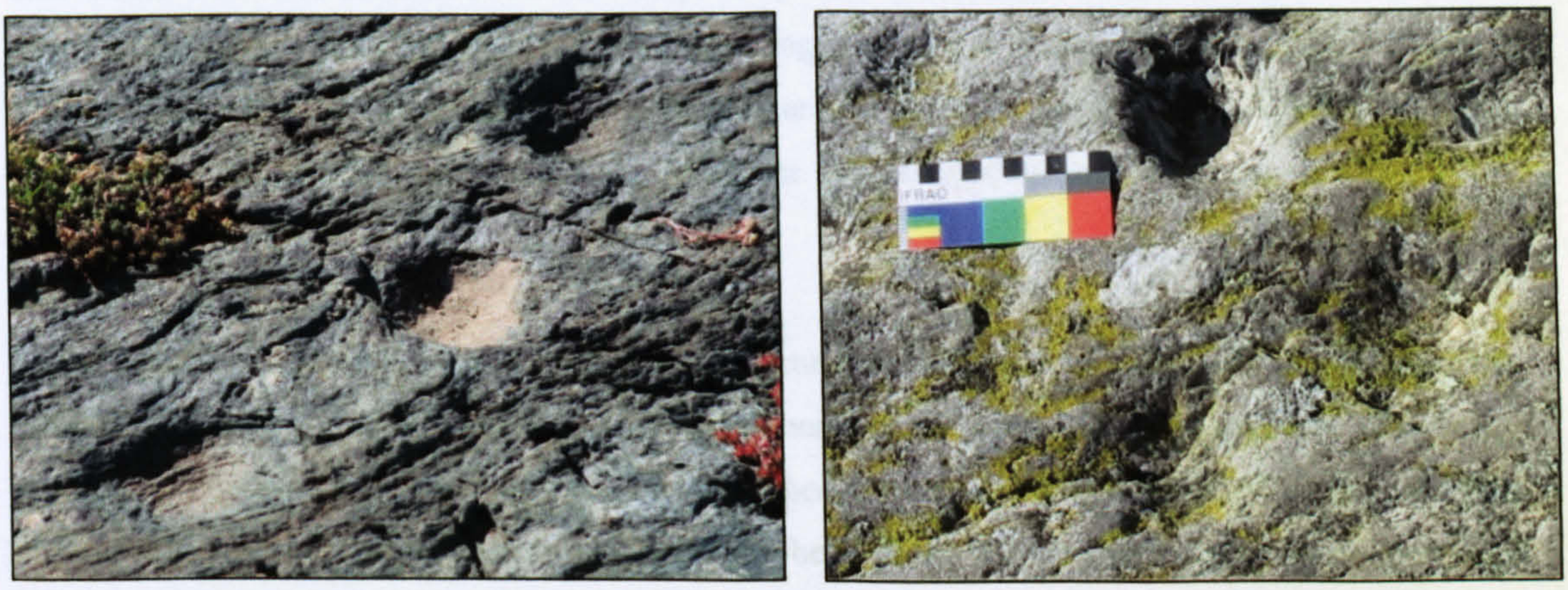


Figure 7-74: Comprison of cups. Left: Bryn Celli Ddu (Photo: A. Stanford); right: Low Park, Cumbria.

7.3 Beyond the rocks – an analysis of the wider landscape

In recent years there has been an increasing emphasis on the local environment of rock art site and their relationship(s) with other archaeological features. In offering alternative ways to study rock carvings. The following section considers both natural and human elements in the landscape in order to situate the Lake District outcrops within a wider context, beginning with an examination of the evidence for prehistoric activity in the vicinity of the panels.

7.3.1 Human landscapes

It was not within the remit of the present study to carry out physical surveys but desk-based database searches were undertaken using the Lake District National Park Historic Environment Record (HER). Searches were conducted for 'prehistoric' or 'unknown' sites and finds within 5 km of each rock art site. These were then evaluated and relevant primary literature sources consulted and, where possible, aerial photographs were also inspected. The resulting information was plotted onto digital Ordnance Survey maps using GIS software; the source data are included in Appendix D. The results of the searches are presented for each site in turn, then some general conclusions are drawn.

Patterdale **(Figure 7-75)**

Little archaeological evidence is recorded in the immediate vicinity of the carvings, the closest being a bronze bridle bit found on Place Fell 1 km to the north of the Place Fell Cottage panel. Other finds within 5 km include a flint scraper (date undetermined) near Low Hartsop (Fell 1974), 2.5 km south of Beckstones; and a flint, tanged and barbed arrowhead found 2 km west of Rooking, on Helvellyn. The nearest Langdale axe find is 8.5 km to the west at Wythburn in the adjacent valley of Thirlmere. A number of prehistoric settlement sites have been identified in the area, for example at Hag Beck 1.5 km to the south-west, at Hartsop Hall, 1 km south of Beckstones, and at Heck Beck 2 km east in the valley of Bannerdale. These are all enclosed settlements, believed to be of Late Bronze Age and Iron Age date, but recent work at Matterdale on the north-eastern shore of Ullswater has revealed a more extended sequence of settlement and land-use dating from the Late Neolithic through to the Late Iron Age (Hoaen & Loney 2003; Loney & Hoaen 2003; 2004). An intensive landscape survey found evidence of early prehistoric activity in the Glencoyne Park area, with cairn-fields (believed to be burial), and two kerbed cairns[8]. Excavation of one cairn produced Neolithic and Early Bronze Age material, and the cairn was found to overlie a Neolithic pit alignment. This predominantly ritual landscape was later augmented with a variety of enclosed settlements, some appearing to have direct relationships with the Bronze Age monuments: the curvilinear enclosures either incorporated monuments, were very close, or were intervisible (Loney & Hoaen 2004: 43-48). Loney and Hoaen argue that Bronze Age structures and boundaries were recalled and respected by later groups (2005). If similar patterns of continuity are present at the other settlement sites in Patterdale, then the area may have been home to a number of communities from an early stage. Further evidence for a Neolithic presence in the area comes from Hallin Fell, 5 km north-east of the rock art, where aerial

[8] No rock art was identified (Helen Loney, 2004, pers.comm.)

photographs indicate the presence of a large, hilltop enclosure (Peter Horne, 2005, pers.comm., 23 November). Finally, taking a wider view, the north end of Ullswater gives access to two significant concentrations of prehistoric activity: the henges of Mayburgh and King Arthur's round table (Chapter 9), and Moor Divock, an elevated tract of moor rich in both monuments and settlements (see Chapter 5).

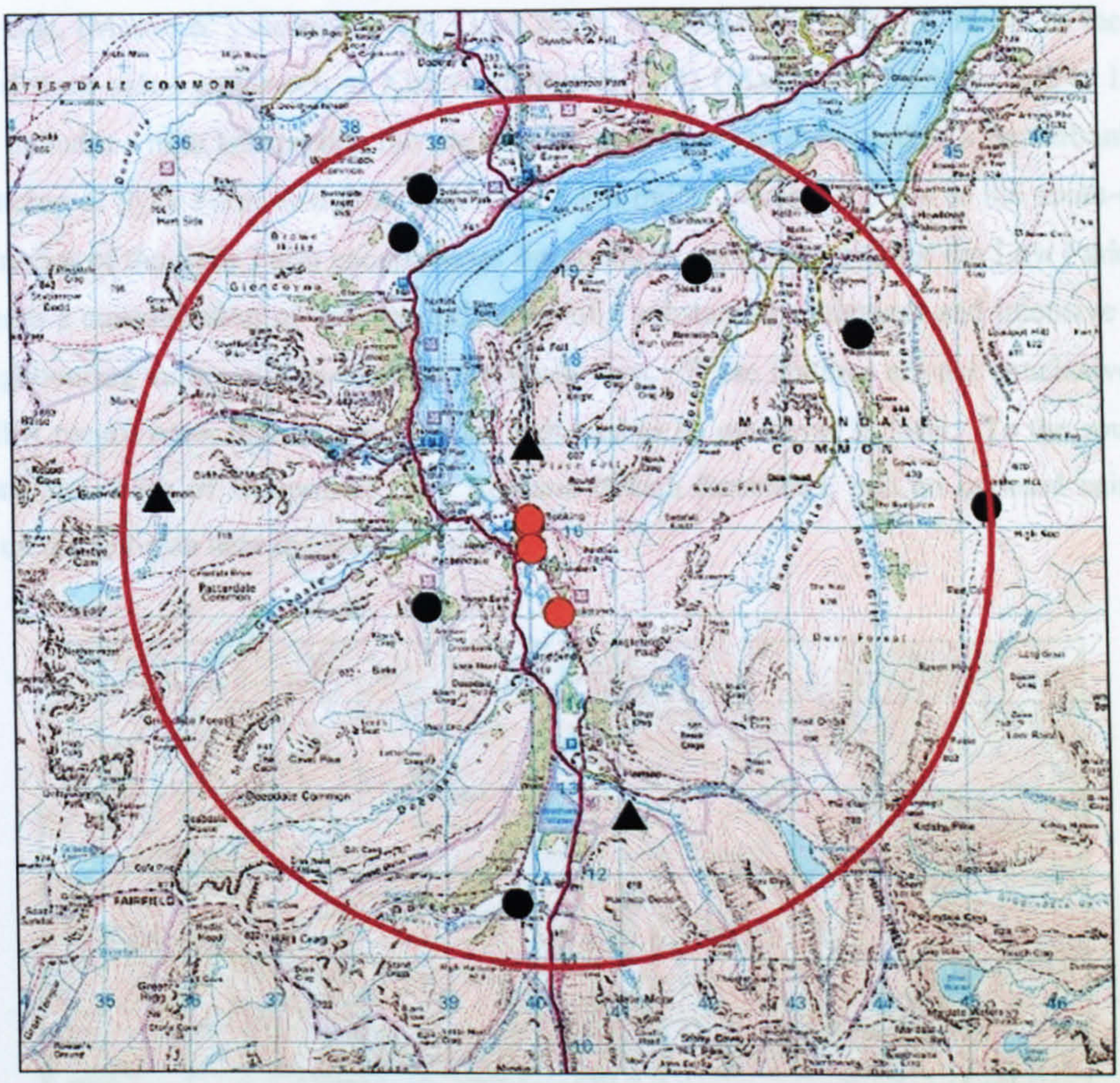


Figure 7-75: Prehistoric sites and finds within 5 km of the Patterdale outcrops (●); (●) = site; ▲= find-spot.

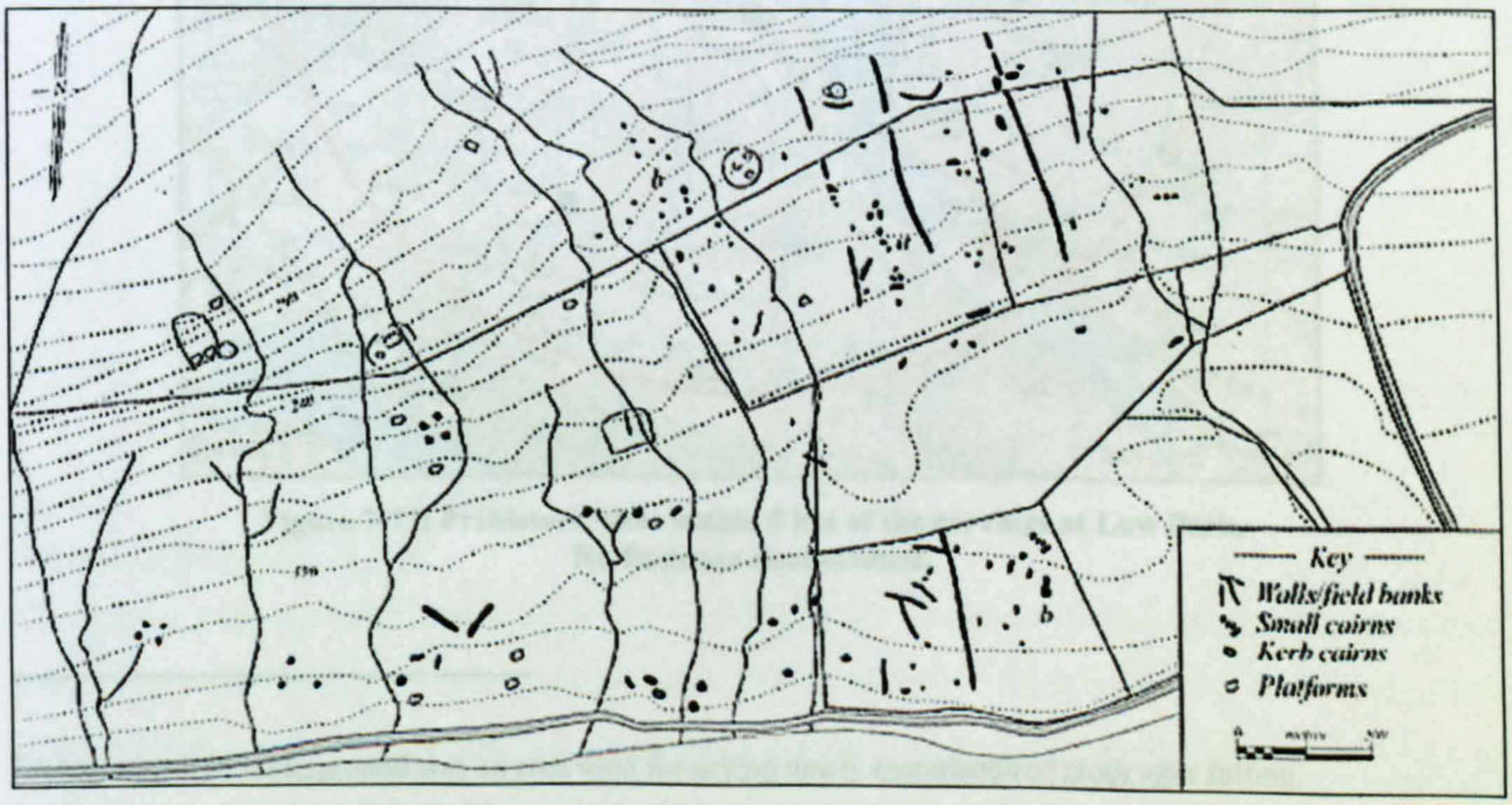


Figure 76: Glencoyne Park survey. (After Hoaen & Loney 2007: fig.11.3)

Low Park and Syke Farm **(Figure 7-77 and Figure 7-78)**

The HER search produced a number of hits within 5 km of Low Park, including three surface finds: a stone hammer, a pierced 'stone implement', and a bronze axe. Bronze Age burial cairns are located on several of the surrounding fells, and later (Iron Age/Romano-British) settlements and enclosures are found on lower ground, a notable example being the 'scooped settlement' at Lanthwaite Green, 2 km to the east, (Mason & Valentine 1924; Lund 2001). Closest to the rock art, 750 m to the west, is an undated three-sided earthwork at Kirkstead **(Figure 7-79)** (Mason & Valentine 1924: 120-121). The HER includes a note interpreting the site as a henge which was then used as a 'tenterbank'[9]. The carved outcrop at Syke Farm also falls within the 5 km radius, located 4.3 km to the south-east, and the 5 km radius of the Syke Farm encompasses the southern sites discussed for the Low Park area. It also includes a concentration of features indicative of a substantial settlement and intensive land-use in the neighbouring valley of Ennerdale to the south-west. These features are not conclusively dated but the HER record notes that long-houses are believed to be medieval in form. To the south of the panel along the shore of Buttermere, is a Romano-British farmstead, and an undated cairnfield is recorded on the fell-side near to Coledale Beck.

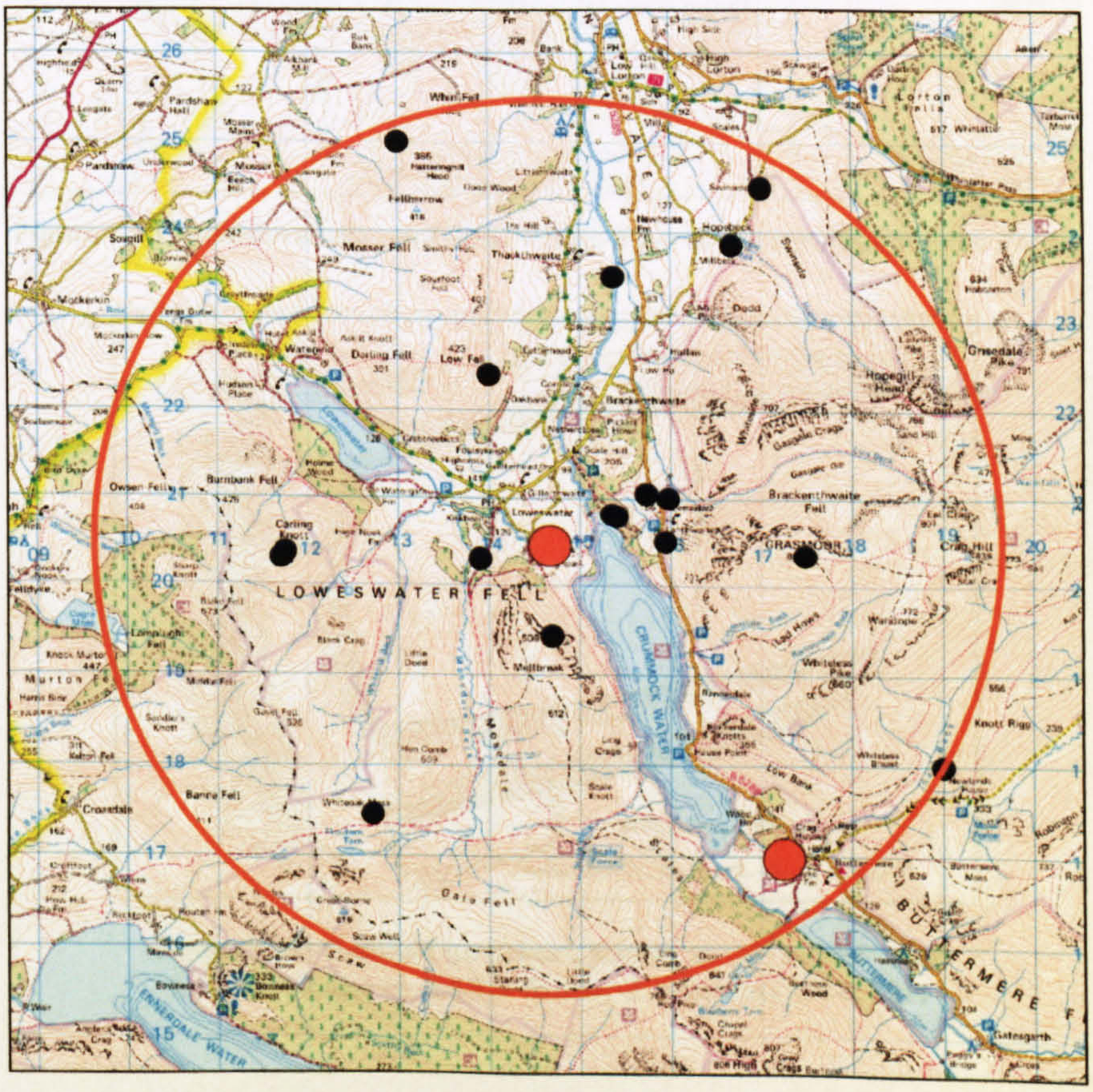


Figure 7-77: Prehistoric sites within 5 km of the carvings at Low Park. No finds are documented.

[9] A tenterbank or tenterground was an area used for drying newly manufactured cloth after fulling.

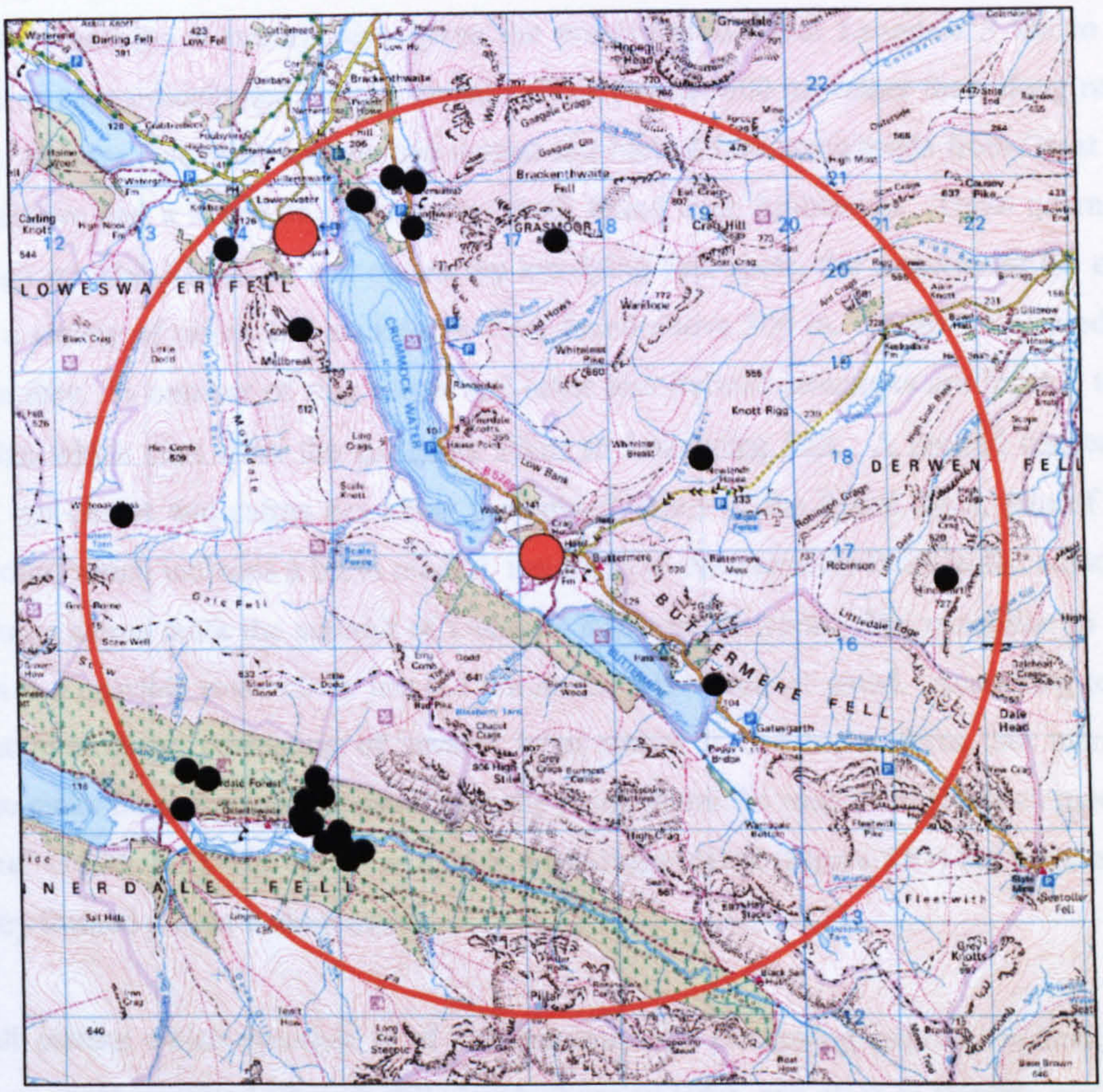


Figure 7-78 Prehistoric sites and finds within 5 km of the carvings at Syke Farm.

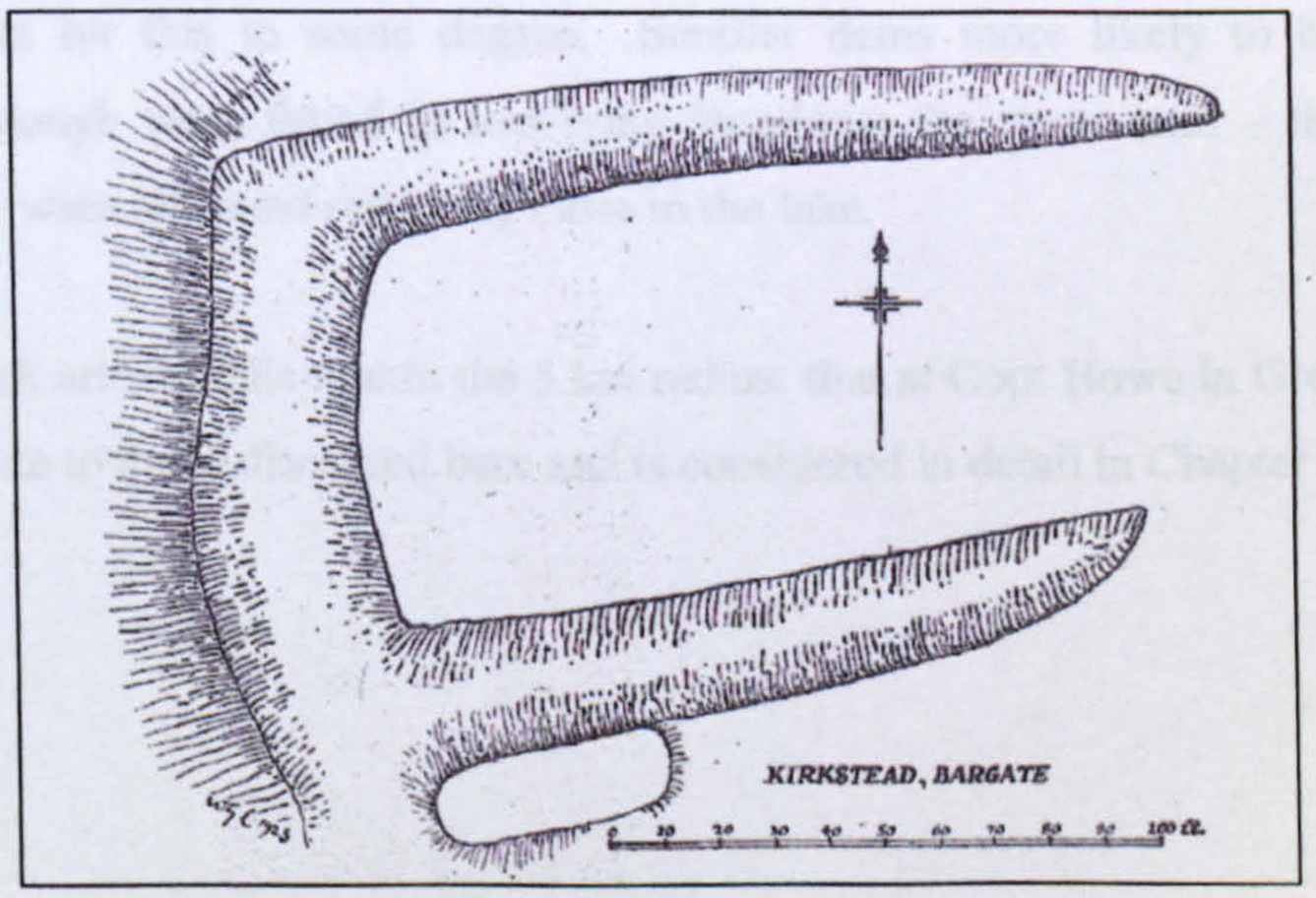


Figure 7-79: Undated earthwork known as 'Kirkstead' near Low Park outcrop. (After Mason & Valentine 1924: 121)

Broadgate Park **(Figure 7-78)**

The HER database produced seventy hits with 5 km of the Broadgate Park outcrop – far more than any of the other sites. This may reflect the central location of Grasmere on the north-south route through the fells, but close inspection of the data reveals that many of the records are the result of field surveys carried out in the early 1990s by P. Rogers and W. Inglesfield. Surface finds are limited

to the lower ground and include a number of stone tools representing the Neolithic. The presence of five stone axes perhaps is unsurprising given the proximity to Great Langdale 3 km to the west, although the axes are distributed around the lake shore (within 600 m) rather than along routes from their source. Bronze Age finds include two tanged and barbed flint arrowheads from Great Langdale, a bronze palstave and a hoard of six weapons, both found near Ambleside. Three quern stones of indefinite age are also listed. In contrast to the low-lying find-spots, the majority of the earthworks recorded – a variety of cairns and enclosures – are found above 300 m. These are of predominantly Bronze Age date. A number of ring cairns and other less defined structures are located to the west along a ridge which runs from the Langdale Pikes to Loughrigg Fell. A second concentration of enclosures, hut circles and cairns lies along the upland valley of the Rydal Beck, east of Grasmere. Another group, which includes a burnt mound, lies close to the Scandale Beck in the adjacent valley, and three large cairns mark the summit of Dunmail Raise to the north. The exception to the upland distribution is a possible stone circle just 0.5 km north of the rock art panel. According to Hodgson, "an ancient monument, consisting of several large stones in a circular form, but many of them displaced to make room for roads, existed near the point where the road from Keswick meets the road to Grasmere" (1820: 223). The stones remain in a small graveyard **(Figure 7-81)** but there is nothing to indicate they formed part of a monument.

The overall pattern which emerges is of ritual monuments occupying exposed upland areas, with settlement on more protected (though still elevated) valley sides, and close to flowing water. There is little evidence of settlement on the valley floor or around the lake, although modern development must surely account for this to some degree. Smaller items more likely to be uncovered than destroyed by the plough were found in low-lying locations; the stone axes – the only confirmed Neolithic remains – were all found relatively close to the lake.

Note: One other rock art site falls within the 5 km radius: that at Copt Howe in Great Langdale. This is a very different site to those discussed here and is considered in detail in Chapter 8.

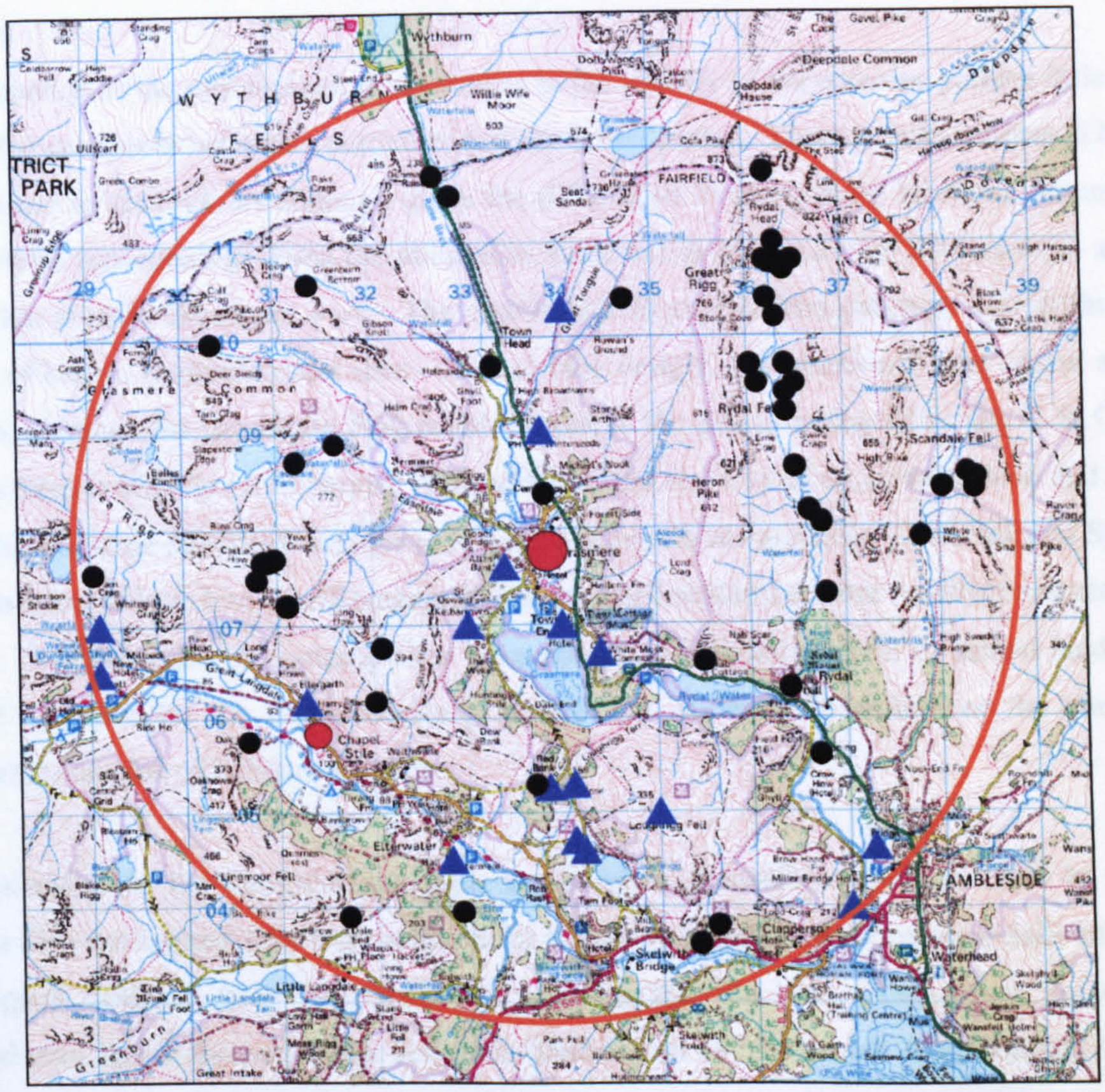


Figure 7-80: Prehistoric sites and finds within 5km of the Broadgate outcrop. ● = earthworks or monuments; ▲= find-spot.(Small red circle is rock art site at Copt Howe).

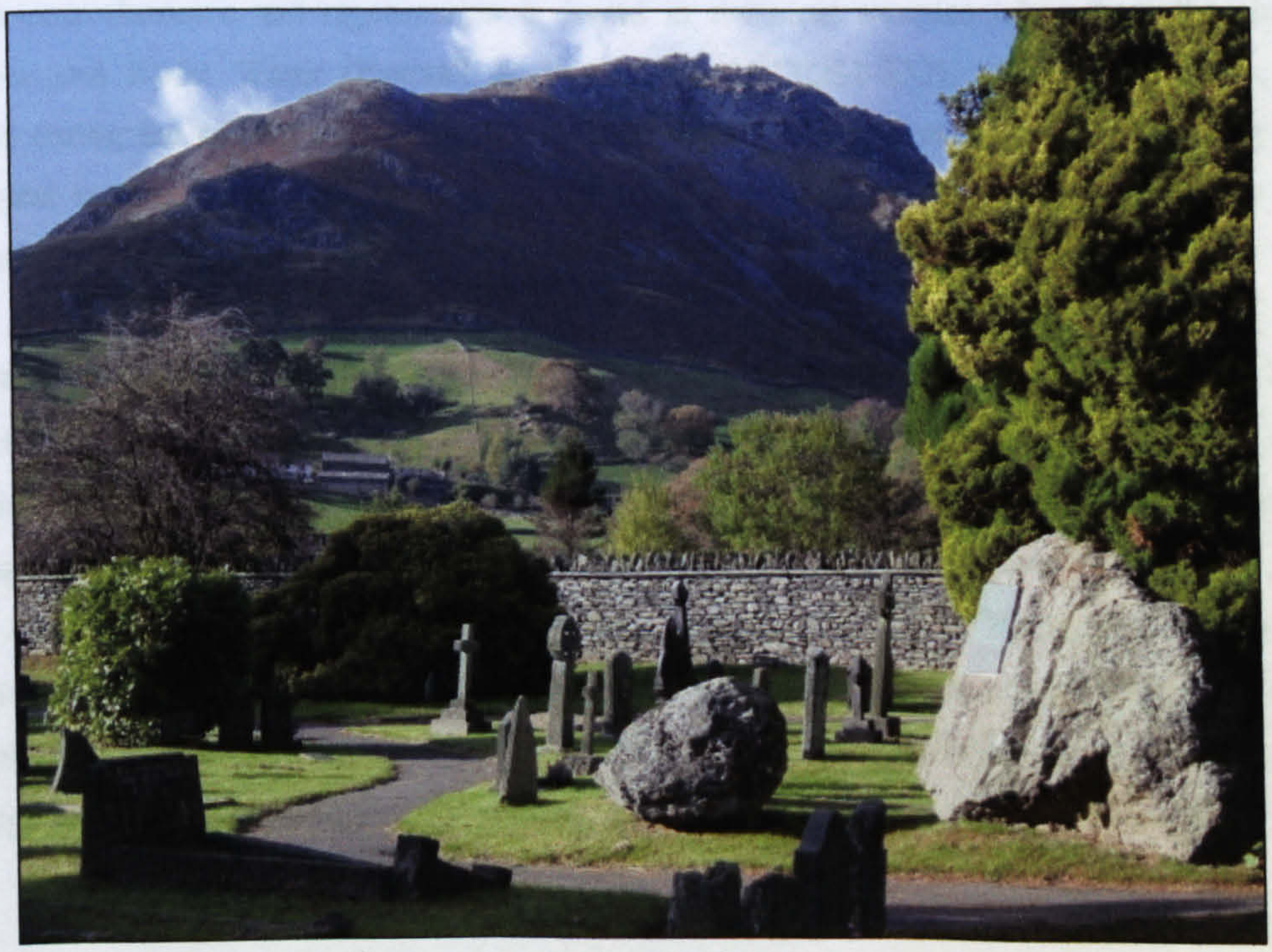


Figure 7-81: Boulders in the churchyard at St. Oswalds, Grasmere. The remains of a megalithic monument?

Discussion

The examination of the archaeological landscapes in the vicinity of the outcrops yielded little positive evidence for an association with a particular activity at any period. There is little confirmed Neolithic material close to the rock art although given the difficulties in recognising Neolithic domestic sites this is perhaps unsurprising. Even the ubiquitous stone axe is scarce around the outcrops, appearing within 5 km at only Broadgate Park. The distribution of cup-marked outcrops also differs greatly from that of known Neolithic ritual sites - stone circles, henges, enclosures and long cairns, as seen in Chapter 6, although the Broadgate Park panel is close to the possible megalithic site at St Oswald's. Although there is slightly more Bronze Age evidence, the majority is on elevated land and no direct relationship could be discerned with the outcrops. The panels at Patterdale, Low Park and Syke Farm are within 5 km of later Iron Age/Romano British enclosed settlements, but no direct associations can be made. It appears that the outcrop sites were not part of extensive ritual or settled landscapes as seen, for example, on the archaeologically rich moors of North Yorkshire or the concentrated monumental complex of Kilmartin Valley.

Yet the situation of the Cumbrian outcrops, in low-lying, accessible locations, close to water and resources does not suggest they were selected for their remoteness or isolation from daily life. In fact, palynological evidence from lake sediments suggests that the lake valleys were not cleared of woodland until late in the prehistoric sequence (Pennington 1970; Pearsall & Pennington 1973: 226-236). These sites would likely be surrounded by dense deciduous forest, and so were perhaps less attractive to early prehistoric settlers, although small areas may have been cleared, either for temporary settlement, for grazing or, at a later stage, for crop-growing. Evidence of repeated episodes of short-term clearance and regeneration is found in sediment samples taken from the shores of Thirlmere and Rydal Water (Pearsall & Pennington 1973:231-232). These clearances, which occurred during the second millennium B.C., have been associated with grains resembling barley; Pennington suggests they reflect a pattern of shifting cultivation, but in general valley woods remained un-cleared.

A further possibility is that activity associated with the carved outcrops was transitory and left few traces, although at rock art sites elsewhere, where geophysical surveys or excavations have been conducted results suggest that the panels may have been less 'isolated' than the extant archaeological landscape suggests (O'Connor 2003; Jones 2006). Without similar investigations in Cumbria, all that can be concluded is that the cup-marked outcrops in the Lake District have a distribution pattern which is very different to that recorded for any other prehistoric evidence in the region. Given that archaeological connections are elusive, might the position of the outcrops within the *physical* landscape provide any clues to the role of these cup-marked sites within prehistoric society?

7.3.2 Natural landscapes: visibility and view-sheds

Previous sections identified a number of characteristics common to the cup-marked outcrops, but what truly unites them is their position within the landscape. All are situated on or just above the valley floor, within 1 km of a lake, and very close to the beck which feeds the lake. All are almost completely surrounded by mountains, but lie 9 to 18 km from the central massif on the periphery between the high and low fells. Could these common elements in their positioning have determined their selection for special attention?

An approach often applied to the study of rock art and landscape is to consider views and visibility, either from the carved rocks, towards them, or between them (e.g. Bradley 1997; Purcell 2002). The extensive views afforded by many carved panels across Britain has led to suggestions that rock art is related to movement through the landscape, functioning as 'signposts' or territorial markers (Bradley 1994; Van Hoek 2001). A related strand of research considers the accessibility of rock art in the landscape, drawing conclusions regarding the nature of the target audience (e.g. Purcell 2002). In Chapter 2 problems were noted with such studies, in particular the current lack of knowledge regarding the level of prehistoric vegetation at the scale required to determine either local visibility or ground conditions affecting movement, a major factor in determining both visibility and accessibility. Other studies have taken a qualitative rather than quantitative approach, considering the location of rock art sites with respect to specific 'landmarks' in the landscape, such as mountains, distinctive rock formations, caves, waterfalls, rivers or the sea argued to imply a ritual dimension (O'Sullivan & Sheehan 1993). These analyses are affected by the same issues described above, and it may be that proximity was as important as visibility in relationships of this kind.

Whilst acknowledging the limitations above it remains worth exploring whether the Lakeland outcrops show any trends or share characteristics with rock art sites elsewhere, and to consider whether the views to and from the panels may have influenced their selection for carving. As already noted, evidence from pollen analysis suggests the valleys in which the Lakeland rock art sites are located were heavily wooded. It is possible that there were localised clearances, and that the rock art sites were maintained, but for the purpose of the following analysis it is assumed that the area around each site was wooded. A further consideration is that the lakes themselves had very different shorelines at the time the carvings were made. Cores taken from lake valley sites across the Lake District indicate that the lakes were more extensive during the prehistoric period (Hodgkinson et al. 2000: 316-317), and more recent engineering may have significantly altered both the shoreline and the nature of the valley floor. No studies could be identified which provide probable shoreline data for the prehistoric period.

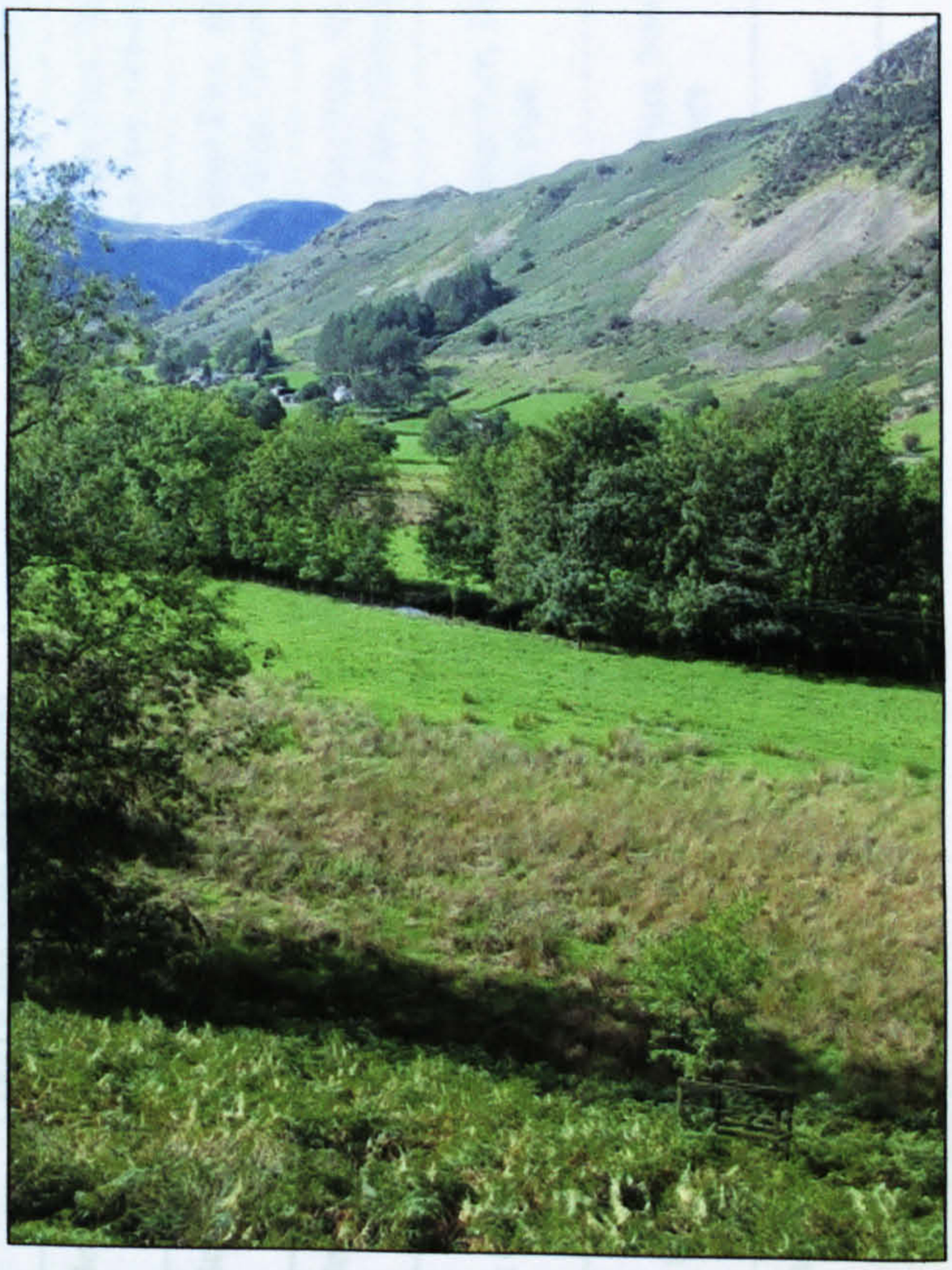


Figure 7-82: View south across valley floor from Crookabeck.

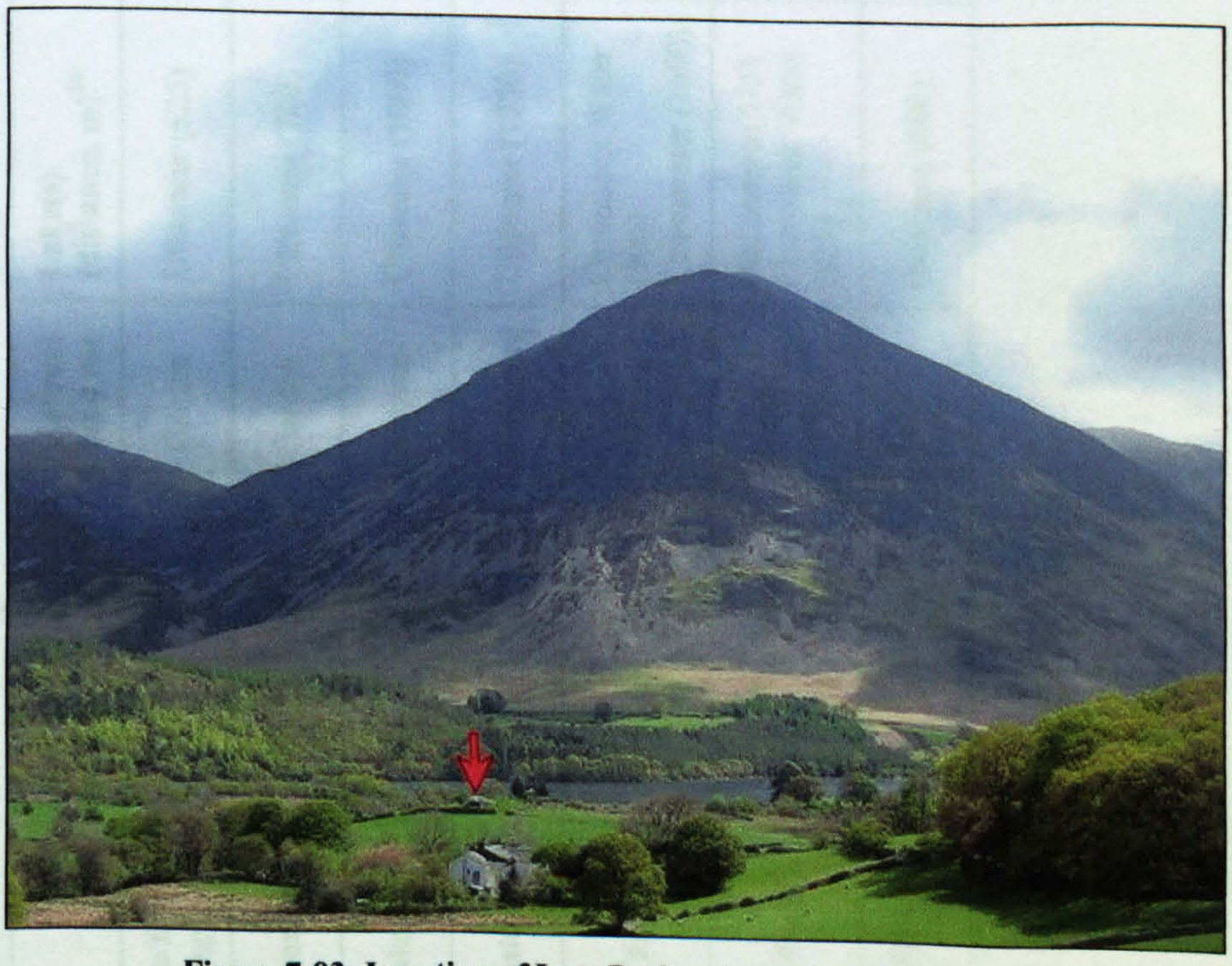


Figure 7-83: Location of Low Park outcrop in valley bottom.

Table 7-4: Location characteristics of panels discussed in Chapter 7.

Site	Elevation (m OD)	Position	Current land use	Lake(s) (distance, m)[10]	Beck (distance, m)	Mountains (height, m)	Nearby route ways
Place Fell Cottage	170	Valley side (east)	Garden	Ullswater (625)	Goldrill Beck (275)	Place Fell (657);Birks (622) St Sunday Crag (841); Sheffield Pike (675).	Kirkstone Pass, Boredale Hause, Sticks Pass, Grisedale Hause
Greenrigg	160	Valley side (east)	Garden	Ullswater (700)	Goldrill Beck (250)	Place Fell (657); Birks (622); St Sunday Crag (841); Sheffield Pike (675).	Kirkstone Pass, Boredale Hause, Sticks Pass, Grisedale Hause
Crookabeck	150	Valley floor	Pasture	Ullswater (1000)	Goldrill Beck (75)	Place Fell (657); Birks (622); St Sunday Crag (841); Sheffield Pike (675).	Kirkstone Pass, Boredale Hause, Sticks Pass, Grisedale Hause
Beckstones	160	Valley side (east)	Farmyard	Ullswater (1750)	Goldrill Beck (75)	Place Fell (657); Birks (622); St Sunday Crag (841); Sheffield Pike (675).	Kirkstone Pass, Boredale Hause, Sticks Pass, Grisedale Hause
Low Park	116	Valley floor	Pasture	Crummock Water (500) Loweswater (1600)	Park Beck (50)	Mellbreak (509); Loweswater Fell (412); Whiteside (707); Grasmoor (852).	Whinlatter Pass, Coledale Hause, Floutern Pass
Syke Farm	110	Valley floor	Camp site	Buttermere (575) Crummock Water (625)	Mill Beck (3)	Whiteless Pike (660); Robinson (737); Hindscarth (727); Fleetwith Pike (648); Haystacks (582); High Crag (582); High Stile (807); Red Pike (755).	Honister Pass, Newlands Hause, Floutern Pass
Broadgate Park	73	Valley floor	Public park	Grasmere (800)	River Rothay (80);	Helm Crag (405); Great Rigg (766); Rydal Fell (621).	Dunmail Raise.

[10] Based on current shoreline

Visibility

There are few examples of British rock art where the carvings are themselves visible from any distance; in the Cumbrian examples, the majority of cups are positioned on upper surfaces requiring the viewer to be standing on the rock in order to see them[11]. So are the outcrops themselves noticeable from any distance? It must be noted here that the visibility of the outcrop is not related to the view-sheds from it; vegetation aside, whether the rock can be seen is dependent not only on the surrounding contours but also on the nature of both the outcrop and its immediate environment. A large, flat rock is much less visible than a smaller, upright one, and discrete, isolated outcrops tend to be more noticeable than those which form part of a generally rocky landscape. The following evaluations are therefore based on observations in the field rather than analysis of topographical models.

The Low Park outcrop is a substantial block which emerges from a small hill, surrounded by relatively flat and (at present) vegetation-free ground. It is likely that the hill itself would not support the growth of large trees, so the outcrop may not have been entirely hidden by vegetation. Although the pale-coloured rock is visible from the far side of the lake and from locations higher up the slopes of Melbreak, it cannot be seen from the current lake shore, where the view is blocked by the natural prominence of Loweswater Pele, nor from the north-east below the level of the hill from which the slope of the outcrop emerges. The Broadgate Park outcrop is of similar size, standing proud of the surrounding area, but is not elevated like that at Low Park, so may have been largely hidden by surrounding vegetation as it is today. Buildings to the south prevent observations from that directions and the park to the north may have been artificially 'flattened', although pasture (drained?) to the east is flat and would allow a view of the rock across the valley floor; the view from the north-west is interrupted by the small knoll of Burthalyp Howe. At Syke Farm the panel is horizontal and at ground level, visible only from immediately above. The more prominent outcrop nearby is a continuation of a larger area of outcropping rock and so indistinct from the surrounding landscape. At Patterdale a similar situation occurs, with outcropping rock abundant, however the current woodland, coupled with modern development makes observations difficult. Only at Crookabeck, where the outcrop occurs as an isolated 'island' (an impression enhanced by its covering of trees in the centre of a grassy meadow), does the site appear distinct, but the outcrop itself consists of largely horizontal panels.

With the possible exception of Low Park, the sites appear to be have limited potential as conspicuous landmarks confirming the observations of Gaffney *et al* (1995) who note that rock art, though itself a visual phenomenon, is considerably less visible than other public monuments. Perhaps, instead, the outcrops offer significant views outwards.

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[11] An exception is the Greenrigg 3 (Patterdale) panel which slopes quite steeply and is decorated from top to bottom.

Views

There are two distinct elements to 'views': their extent and their content. The quantitative extent, i.e. the distance and view-field can be determined using Geographical Information System (GIS) software to analyse digital elevation models, but given that the sites in question are situated in low-lying locations believed to be heavily wooded, a detailed analysis of view-sheds was considered of little value in this instance. A qualitative assessments of the content of views is perhaps more informative.

Although the sites are located close to lakes this does not necessarily imply that the water is visible from the panels. In fact this is currently true only for the Low Park (Crummock Water) outcrop (**Figure 7-84**). The view towards Grasmere from Broadgate Park is currently blocked by the town yet although there are no topographical reasons why the lake could not be seen from the outcrop, its relatively low-lying position prevents a firm conclusion. At Syke Farm a small hill restricts the view towards Crummock Water (**Figure 7-85**) and Buttermere is not visible due to the relatively low elevation of the panel (**Figure 7-86**). At Patterdale the contours of Place Fell prevent a view of Ullswater despite the more elevated position of some of the outcrops, however the lower parts of the valley have been much drained and it is possible that the lake once extended much further south. It would appear that a lake-view was not a factor in the selection of the outcrops, but proximity to the water may still have been significant. In the Iveragh Peninsula, a number of panels appear to have an association with lakes, leading O'Sullivan and Sheehan to suggest a water-cult association (O'Sullivan & Sheehan 1993). Outcrops at Derrynablaha and Coomasaharn overlook large lakes, and other panels are suggested to lie on pathways towards lakes. The concentration of rock art around Loch Tay can also be related to the loch, although the important element may be the valley rather than the water, and the association as much practical as ritual. Proximity to water has also been noted by Morris (1970) as a common characteristic of rock art on the west coast of Scotland, where coastal views appear important, but whether this relates to landing sites or to spiritual matters is unresolved.



Figure 7-84: Low Park: view south towards Crummock Water and central fells, Rannerdale Knots in centre.



Figure 7-85: Syke Farm: view north-west over carved panel towards Crummock Water (just visible).



Figure 7-86: Syke Farm: view south-east towards Buttermere (not visible); Haystacks beyond.

As might be expected in the central Lake District, all the cup-marked outcrops have a view of a mountain. Some carvings however, appear to be focussed on the horizon and are worth mention. At both Low Park and Greenrigg, the outcrop is inclined such that the view over the carved panel includes the mountain beyond. At Low Park, the horizon includes Loweswater Fell (**Figure 7-87**); at Greenrigg, Arnison Crag (**Figure 7-88**). It is, of course, difficult to establish the significance of these observations: they may simply be coincidental. A different connection might be surmised for the view from Broadgate Park outcrop, this time away from the carvings, towards the distinctive 'Lion and Lamb' formation on the summit of Helm Crag (**Figure 7-89**). Despite its low height (405 m), this striking feature sits prominently at the end of a ridge and is one of the most recognised hills in the Lake District. It appears to magically transform depending on the location of the viewer, being

known variously as the 'Old Lady Playing the Organ', the 'Howitzer' and, from Grasmere, the 'Lion and Lamb'. Wordsworth immortalised the formation in his poem "Waggoner", likening it to both an astrologer and an old woman (see below). This rock, with its mysterious powers of transmutation may well have attracted the attention of prehistoric communities and prompted them to carve on the outcrop below.

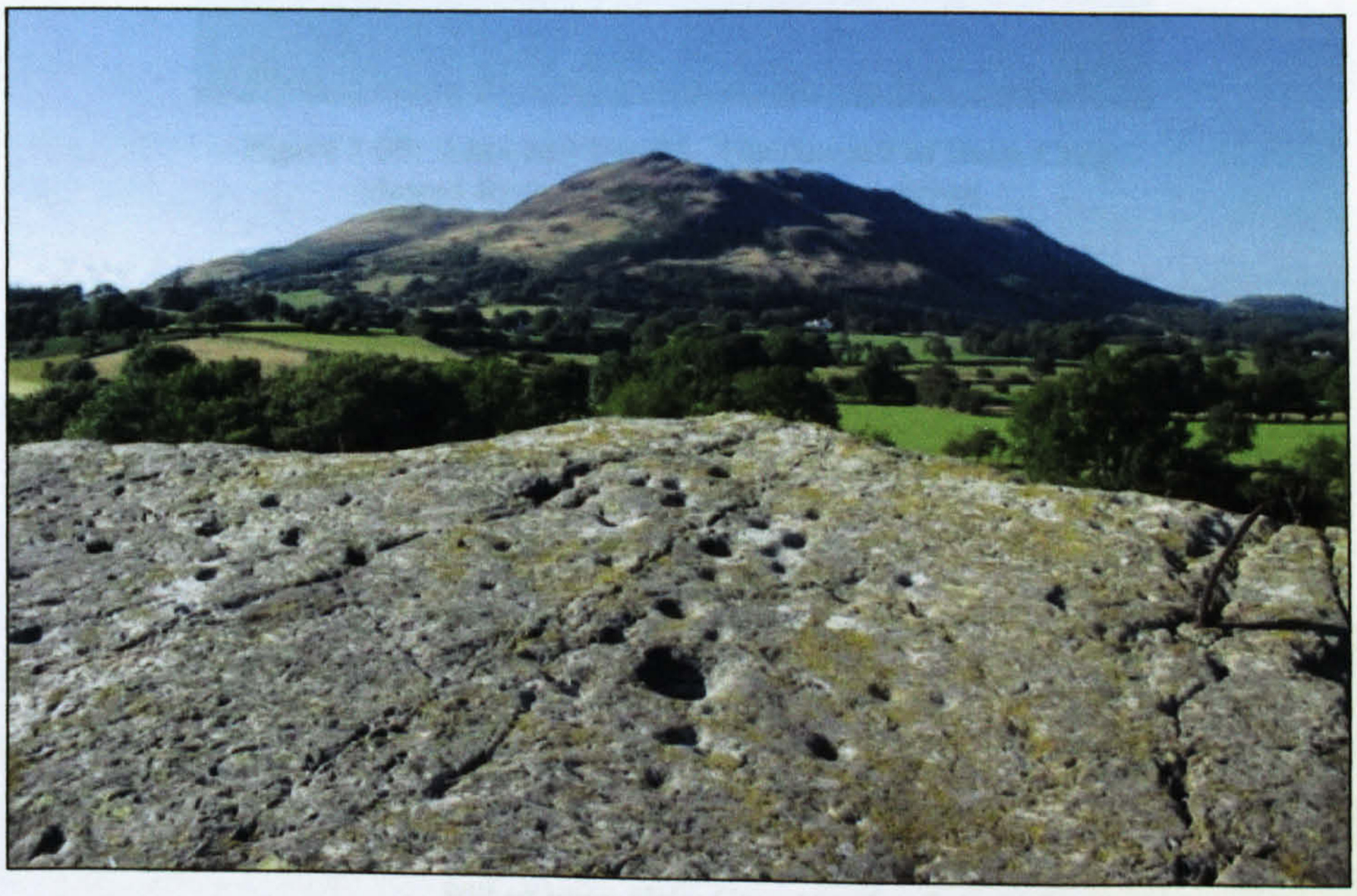


Figure 7-87: View north-west towards Loweswater Fell.

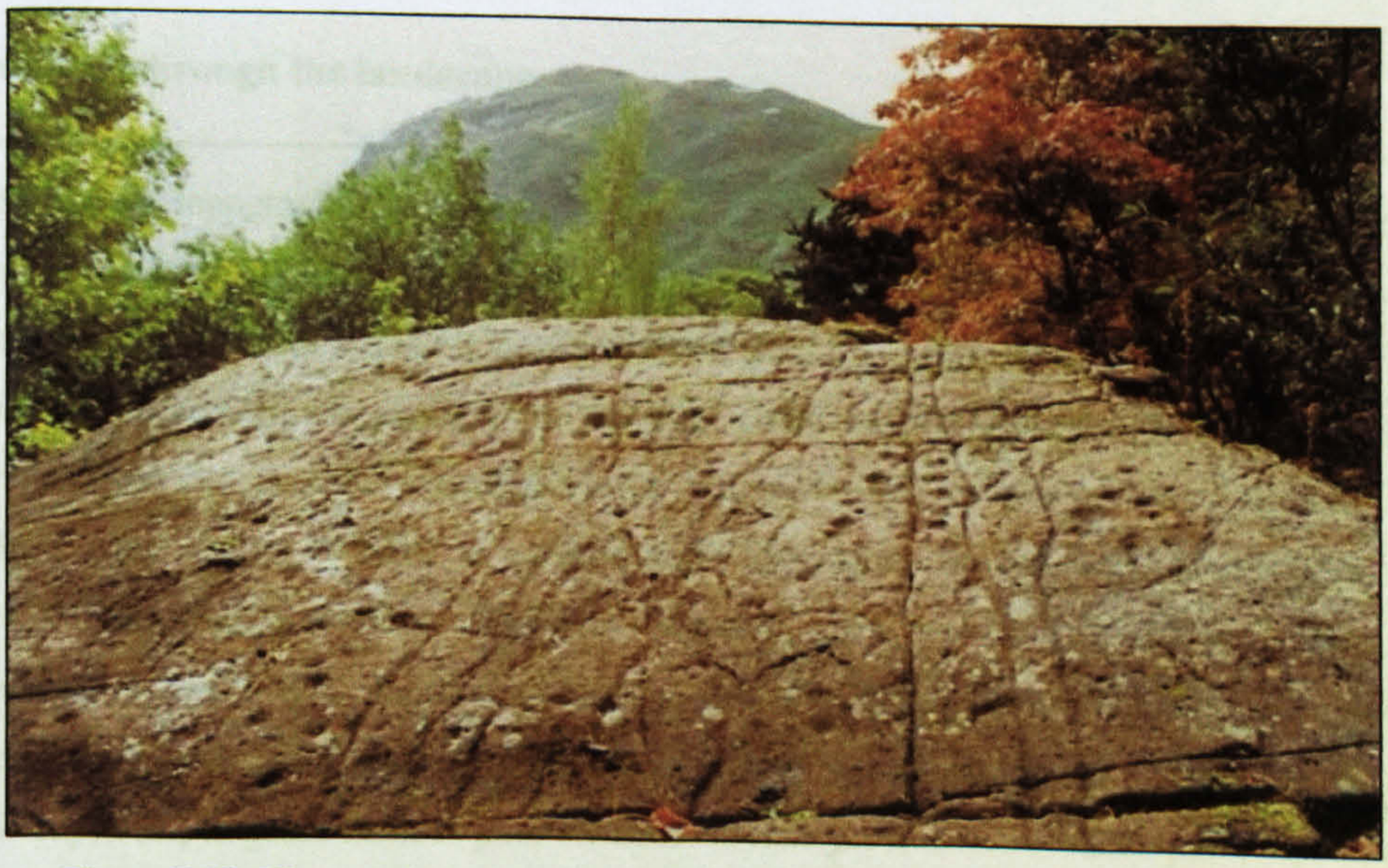


Figure 7-88: View south-west with Arnison Crag beyond. Photo: Stan Beckensall.

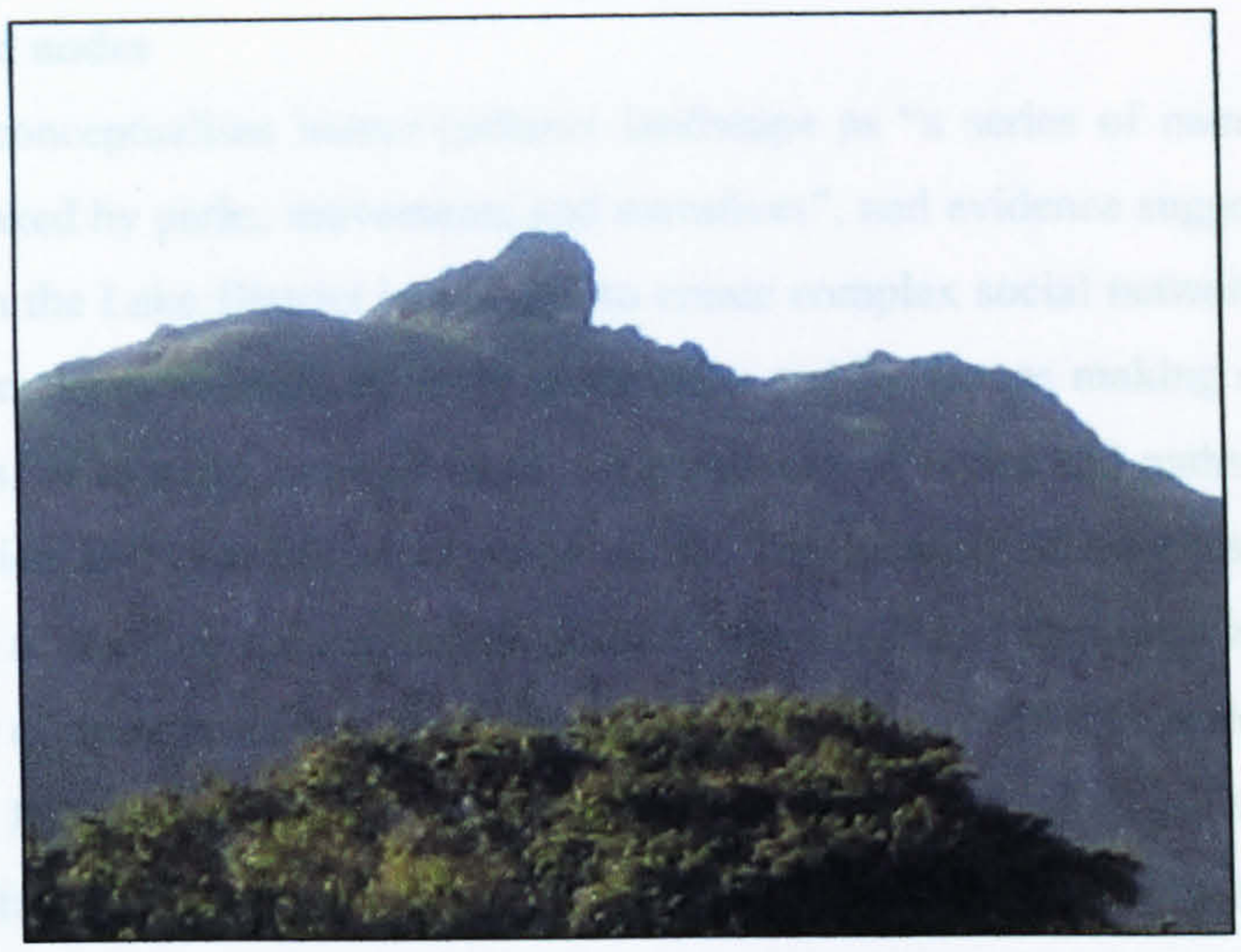


Figure 7-89: 'Lion and Lamb'. The summit of Helm Crag viewed from the Broadgate Park outcrop.

"Sky, hill, and dale, one dismal room,
Hung round and overhung with gloom;
Save that above a single height
Is to he seen a lurid light;
Above Helm Crag - a streak half-dead,
A burning of portentous red
And near that lurid light, full well,
The astrologer, sage Sidrophel,
Where at his desk and book he sits,
Puzzling aloft his curious wits;
He whose domain is held in common,
With no one but the ancient woman,
Cowering beside her rifted cell,
As if intent on magic spell;
Dread pair, that spite of wind and weather,
Still sit upon Helm Crag together."

Excerpt from The Waggoner (Wordsworth 1888)

7.4 Movement through the landscape

The exaggerated topography of Cumbria offers an opportunity to explore current hypotheses regarding the location of rock art in relation to movement and route-ways. The dramatic glacial landscape, with finger-lakes radiating in deep valleys from the central mountain plateau, both restricts and facilitates movement, channelling the traveller along particular paths. The lakes allow rapid transport by boat and provide extended views, but movement between valleys requires intimate knowledge of the terrain in order to avoid lengthy diversions around tarns, un-fordable streams, morasses or dangerous precipices. The view ahead is often restricted by the next ridge and the summit nearly always hidden. Experience accumulated over generations is crucial: from a misty peak only one of many ravines may lead to a particular valley. Today hikers often rely on cairns, built up by fellow explorers, to guide them in poor weather. Better yet is a well-trodden path, representing the invaluable knowledge that only long experiment can build: the exact place in the saddle where approach is easiest from both sides, the safe route through the marshes, or the optimal place to cross the stream.

7.4.1 Networks and nodes

Tilley (1994: 34) conceptualises hunter-gatherer landscape as "a series of named locales, a set of relational places linked by paths, movements and narratives", and evidence suggests that by the early Neolithic settlers in the Lake District had begun to create complex social networks across the region and beyond, with tracks established by early pastoralists and by groups making seasonal expeditions to collect resources, or to trade and exchange. One network of nodes and paths has been studied in detail: the production and distribution of stone axes. The location of quarries and finishing sites, together with finds of roughed-out axe-heads, polished axe-heads and chippings have provided insight into the geography of these processes, with postulated route-ways, exchange nodes (stone circles) and evidence of trade links extending beyond Cumbria. Early carbon 14 dates from chipping floors suggest that exploitation of the stone began during the Late Mesolithic, possibly following discoveries made during expeditions into the mountains from coastal settlements, perhaps herding or tracking animals. Bradley and Edmonds (1993:141) suggest that discoveries of volcanic tuff in lowland rivers prompted coastal communities to follow the streams back to their mountain sources. Later, as production processes became established, roughed-out axe-heads were moved from the fells to lowland finishing sites, and likely routes between such sites and the quarries have been mapped based on the distribution of finds of worked tuff (see for example Plint 1962; Watson 1995). Plint describes a possible route between the Neolithic settlement at Ehenside Tarn (which yielded Gp.VI axes in various stages of manufacture) and the Langdale quarries, following the River Ehen to Ennerdale Water or moving directly over the fells to the head of the lake at Low Gillerthwaite. From here the route led along a valley known as Windy Gap, between Green Gable and Great Gable, down to Styhead and to Esk Hause, and on past Angle Tarn and Rosset Crag to the summit of Stake Pass and Pike of Stickle, the main source of stone. Plint also speculates about a route south using Lake Windermere, which would account for the high concentration of axe-related finds in the Furness peninsula. These and other postulated routes linking the Langdale quarries with 'finishing' sites or stone circles, are shown in **Figure 7-90.**

The exact location of prehistoric routes is, however, difficult to demonstrate. Although the presence of local paths can be confirmed by the presence of wooden track-ways such as those at Foulshaw in the south of the county (Barnes 1904), there is less material evidence for routes in upland areas and around the carved outcrops. In this mountainous terrain assumptions must be made in order to explore likely scenarios. If it is accepted that the narrow valleys channel movement and limit options for travelling between A and B, 'natural' route-ways can be postulated. Further, if the location of contemporary 'nodes' are known, it is possible to use computer modelling to determine a 'least-cost-path' between them. In the current study few settlement sites are known and the chronology of the rock art sites is unconfirmed, so that assuming direct relationships between settlements, carved outcrops and axe quarries would be extremely speculative. An alternative approach is to consider the general accessibility of the outcrops using the slope of the surrounding terrain as a measure.

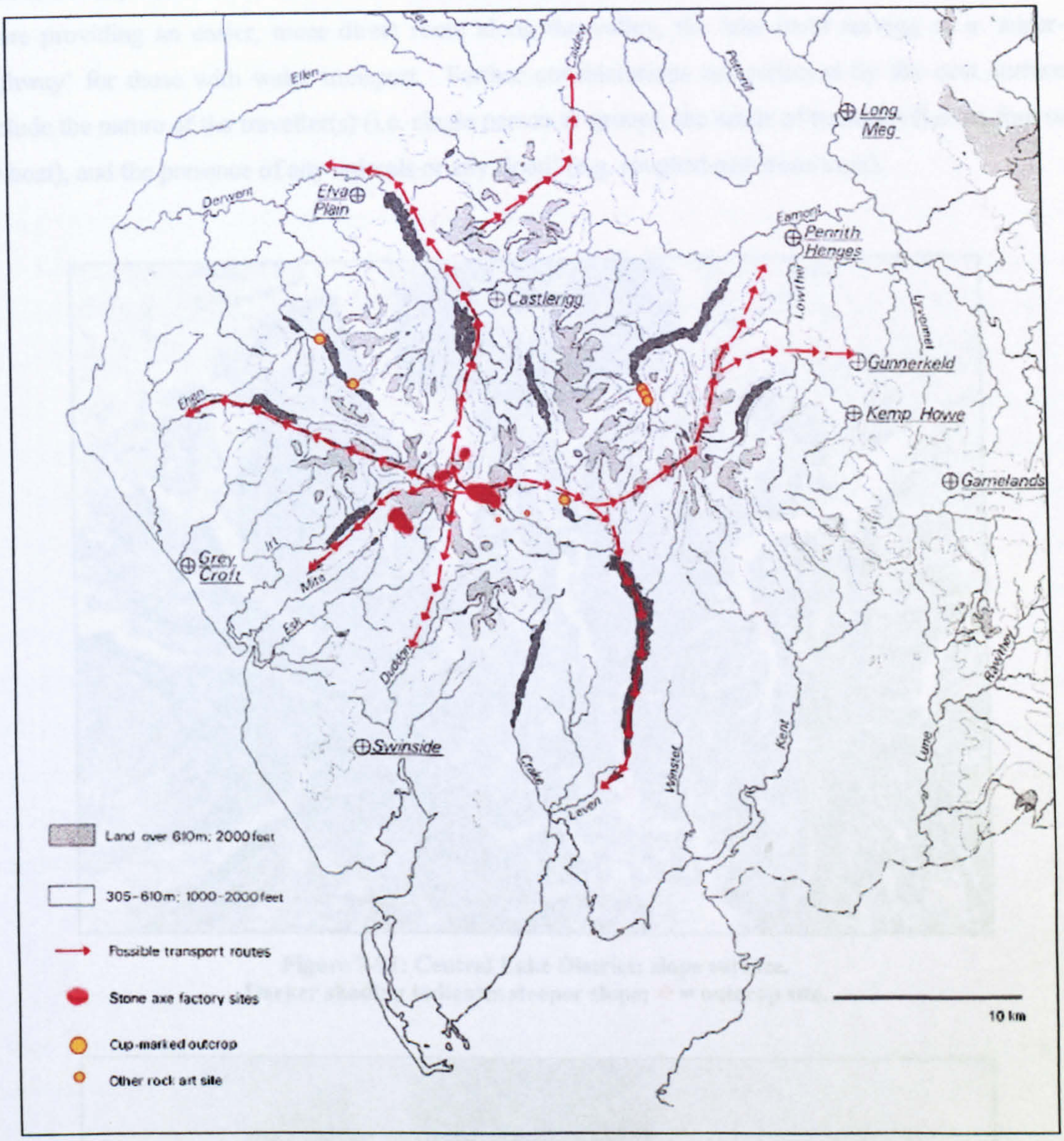


Figure 7-90: Routes postulated by Plint, after Waterhouse (1985, fig. 2.8).

Accessibility: modelling the terrain

GIS software was used to quantitatively examine the accessibility of the rock art sites. OS 1:50,000 scale digital geo-referenced contour maps sourced from Edina Digimap[12] were triangulated to create a Digital Elevation Model (DEM) using ArcView 9.0 (ESRI) software. A 'slope' surface (**Figure 7-91**) was calculated by applying mathematical equations to values of slope for each 200 m^2 cell in the grid. This was then used to generate a 'cost surface'. The resulting map (**Figure 7-92**) illustrates the cumulative cost of moving across the surface from each cell towards the closest rock art panel. This does not, however, take into account the many other landscape factors affecting movement: the nature of the surface (grass, scree or marsh), the presence of water features, or the density of vegetation. If, as evidence suggests, lake valleys were heavily wooded, they may have been much more difficult to traverse than the upper fells, although at the start of the Neolithic period only the very highest slopes

[12] © Crown Copyright/database right 2006. An Ordnance Survey/EDINA supplied service

(above 520 m) were free of trees. Conversely, the vegetation may have been less dense along the lake shore providing an easier, more direct route along the valley, the lake itself serving as a 'super-highway' for those with water transport. Further considerations not reflected by the cost surface include the nature of the traveller(s) (i.e. single person or group), the mode of transport (i.e. on foot or by boat), and the presence of any animals or any 'load' (e.g. roughed-out stone axes).

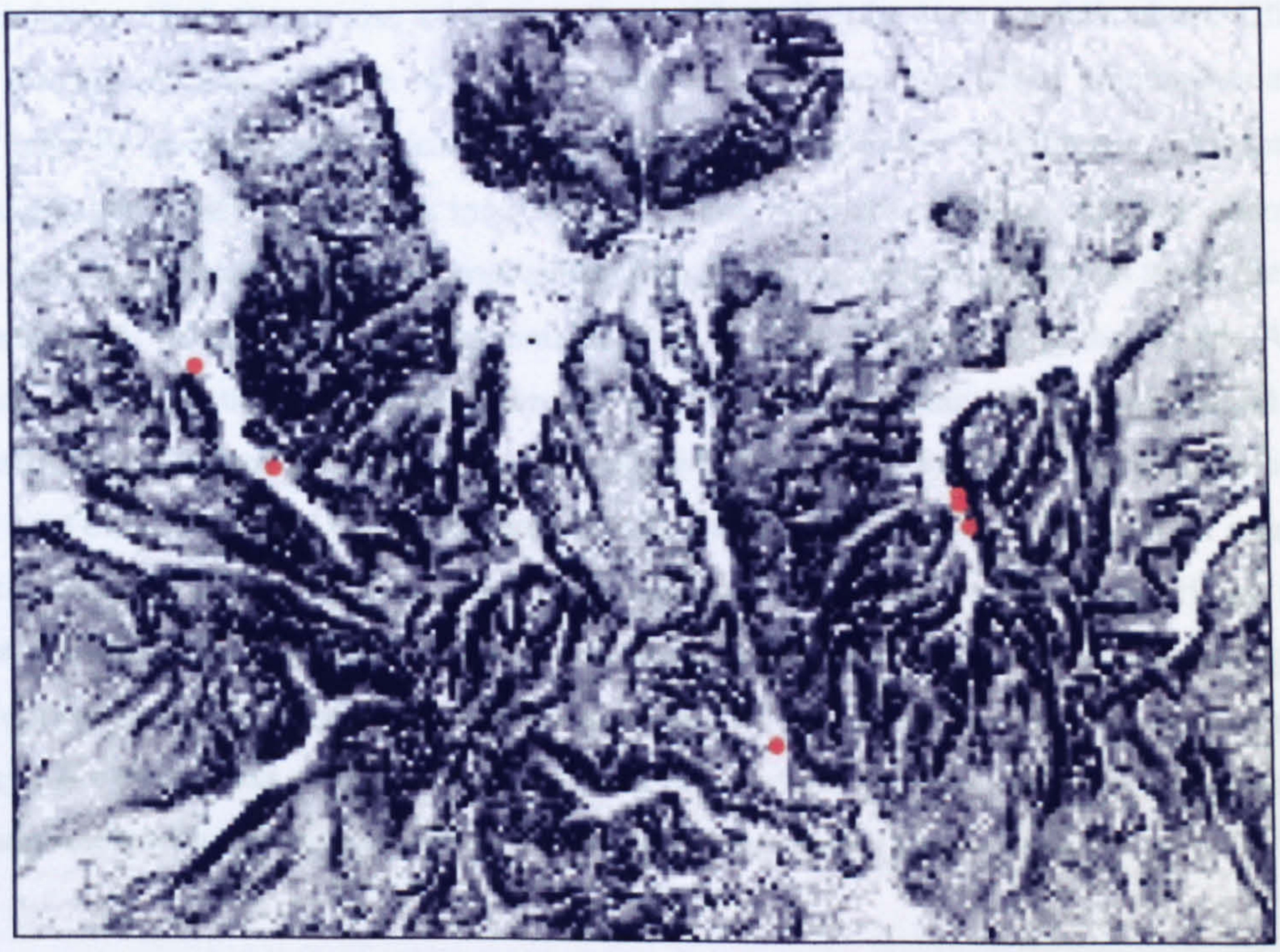


Figure 7-91: Central Lake District: slope surface.
Darker shading indicates steeper slope; ● = outcrop site.

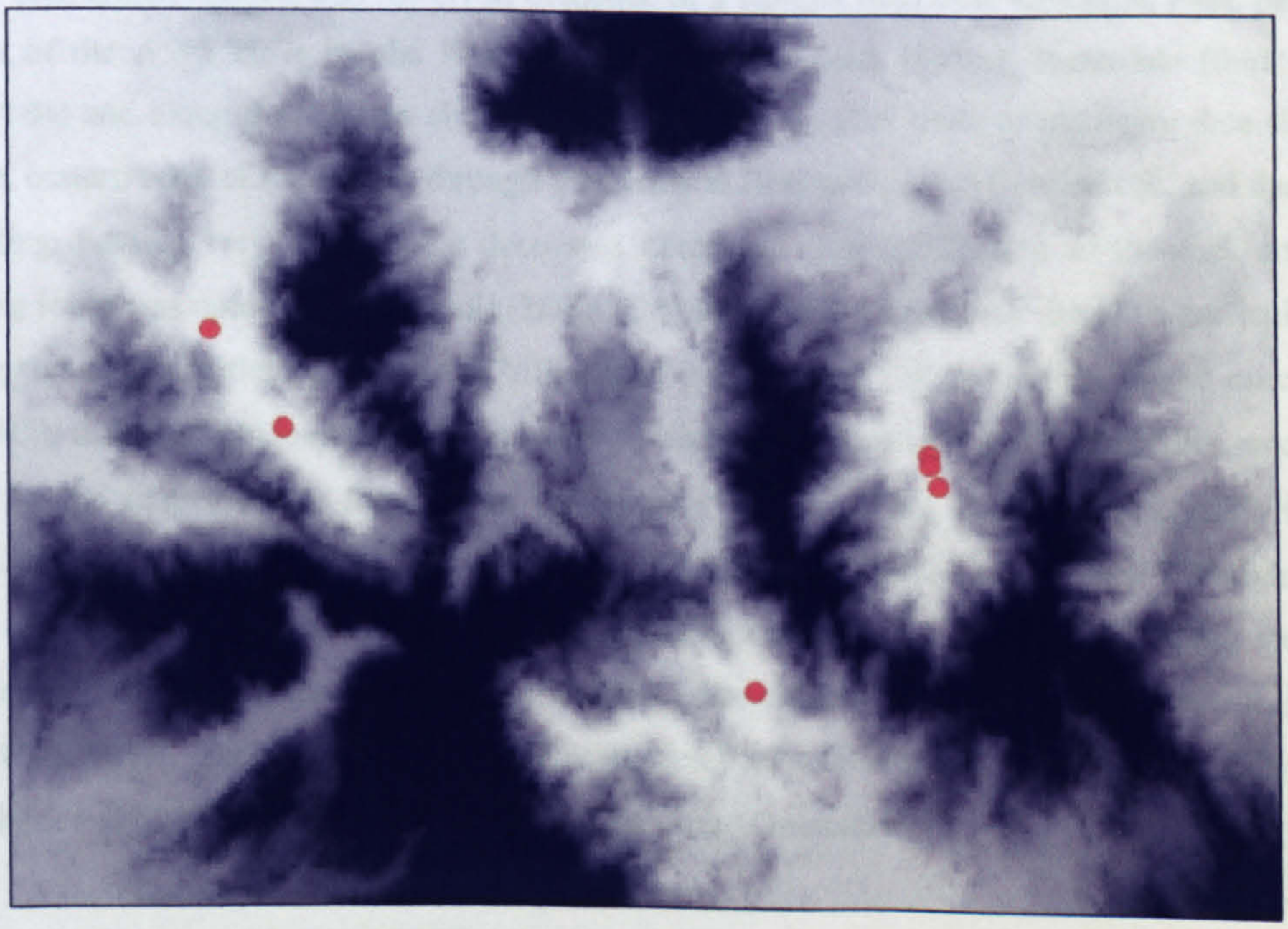


Figure 7-92: Central Lake District: cost surface.
Darker shading indicates higher cost; ● = outcrop site.

Natural route-ways

An alternative option is to consider the paths taken by later, extant routes which, in this restrictive terrain, are likely to have followed pre-existing routes through the region. The concept of continuity in route-ways is highlighted by Taylor (1979: 153) who observes that roads are often laid along tracks that were defined in less permanent ways millennia previously. In Cumbria several Roman roads follow natural passes which link the mountains with the coast, for example over Wrynose, Hardnott and Whinlatter. High Street, also of Roman date, strikes directly over the fells above Ullswater, passing through the concentration of early prehistoric settlements and burial monuments at Moor Divock, once of several routes which pass close to pre-existing native settlements. This may have been a deliberate policy designed to impress and subdue local communities, but may alternatively indicate that the new road simply followed existing tracks, taking advantage of local trade. Several of the Roman roads through the central mountains were used by drovers during the Middle Ages, an east-west route across the county cutting through Wrynose and Hardnott, and through natural gaps in the mountains at Garburn to reach the north-south drove-ways of the Eden Valley; more northerly drovers used the Roman road over Whinlatter. These same routes were also followed for many years by traders with pack-horses. Although there is no evidence that they have prehistoric origins, if tracks had been established by early axe-workers or herdsmen, there is good reason to believe that, given the limited options available, they would have been adopted by subsequent travellers navigating the fells. Mapping the outcrop sites onto a plan of the pack-horse routes (Hindle 1984: fig. 5.8) produces an interesting result with the outcrops all located on significant nodes (**Figure 7-93**).

7.4.2 Routes around the cup-marked outcrops

There is both archaeological and historical evidence of a Roman road over Kirkstone Pass, passing to the west of the A592 close by the Hartsop enclosed settlement, through Patterdale (ibid.: 27-28) (**Figure 7-94**) and along the western shore of Ullswater. A parallel track of unknown date skirts the opposite, eastern edge of the valley, through the farms at Beckstones and Crookabeck, and the hamlet of Rooking, passing very close to the decorated outcrops. The distribution of the rock art panels along this route was noted by Beckensall (2002: 32) but there is no evidence that this particular track existed prior to the settlements, and the 'alignment' may simply reflect the line of the outcropping ridge. Still, this is an obvious route up the valley, keeping just above the lower marshes, and it may equally be the case that the farms were deliberately located along a pre-existing track for very practical reasons. The Patterdale panels also lie close to a convergence of tracks at Boredale Hause, 0.5 km to the east. Here, at 400 m, a saddle funnels travellers from the neighbouring valleys of Boredale and Bannerdale, and is crossed by another upland route which eventually meets the Roman road of High Street. To the west, pack-horse routes lead out of Patterdale, notably over Sticks Pass to the northern end of Thirlmere, and via Grisedale Hause to Grasmere.

The outcrops at Low Park and Syke Farm are also located close to a number of ancient routes. A pack-horse track, now the B5289, follows the eastern shore of Crummock Water, continuing north

into the Lorton Vale. At Lorton, the B5292 which once served Romans, drovers, and later traders, climbs over Whinlatter Pass to Braithwaite, and an alternative track leaves the Iron Age settlement at Lanthwaite Green, passing over Coledale Hause. Other pack-horse routes from villages at Loweswater and Buttermere converge to the west, cutting through the fells at Floutern Pass and descending into Ennerdale. The Syke Farm panel at Buttermere lies on a major cross-roads of paths through the fells. Tracks from Ennerdale to the east and Lorton to the north have already been noted as possible approaches used by stone-workers; routes also lead north-west over Newlands Hause to Braithwaite, south over Scarth Gap and Black Sail to Wasdale Head, and south-east over Honistor Pass to Rosthwaite.

In the central Lake District, the Broadgate Park outcrop lies on a major north-south thoroughfare. Natural route-ways lie on either side: to the west the valley of Easedale leads over Greenup Edge into Borrowdale, and to the east Dunmail Raise, now a dual carriageway, follows the line of the River Rothay northwards over the pass and into the valley of Thirlmere. An alternative path heads north-easterly up Great Tongue and via Grisedale Hause into Patterdale.

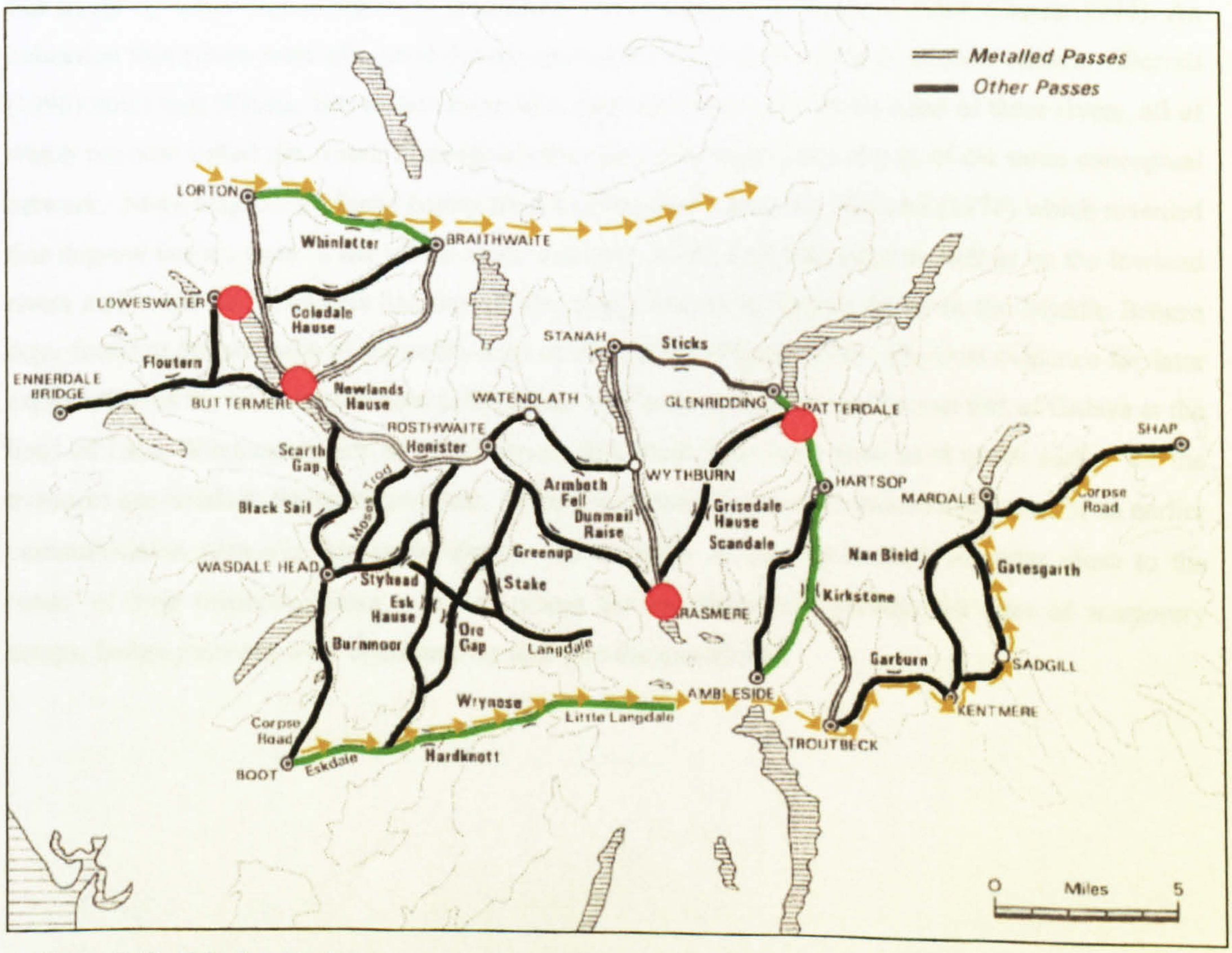


Figure 7-93: Relationship between ancient mountain routes and carved outcrops. Green lines indicate former Roman roads; arrows indicate drove roads. After (Hindle 1984: fig. 5.8).



Figure 7-94: Kirkstone Pass. View north towards Patterdale.

7.4.3 Water transport

A discussion of movement around the Lake District would be incomplete without a consideration of water transport. There is a great deal of evidence for early journeys across and around the Irish Sea (Cummings & Fowler 2004), and the discovery of several prehistoric boats around Britain confirms that travel by water was common in prehistoric life (Johnstone & McGrail 1980; Casson 1994). An indication that rivers were also used for transport may come from analysis of river names. Sherratt (1996) notes that Wessex lies at the centre of a trans-isthmian route at the head of three rivers, all of which are now called the Avon; he proposes that they originally formed part of the same conceptual network. More tangible evidence comes from a systematic survey by McGrail (1978) which revealed that dug-out canoes were in use on the tarns and lakes of the highland zone as well as on the lowland rivers and estuaries. Cumbria has one of the oldest examples, carbon-dated to the Middle Bronze Age, found at Branthwaite in the north-west of the county (Ward 1974). Physical evidence for later exploitation of the lakes can be seen in the remains of a stone quay at the Roman fort of Galava at the head of Lake Windermere but as noted above, this route may have been used much earlier for the transport axe-heads to the southern coast. If the Cumbrian lakes were a indeed a key part of an earlier communication network, this could explain the location of the cup-marked outcrops close to the 'ends' of their respective lakes – at key places for moorings, and perhaps the sites of temporary camps, before journeys were continued on foot into the mountains.

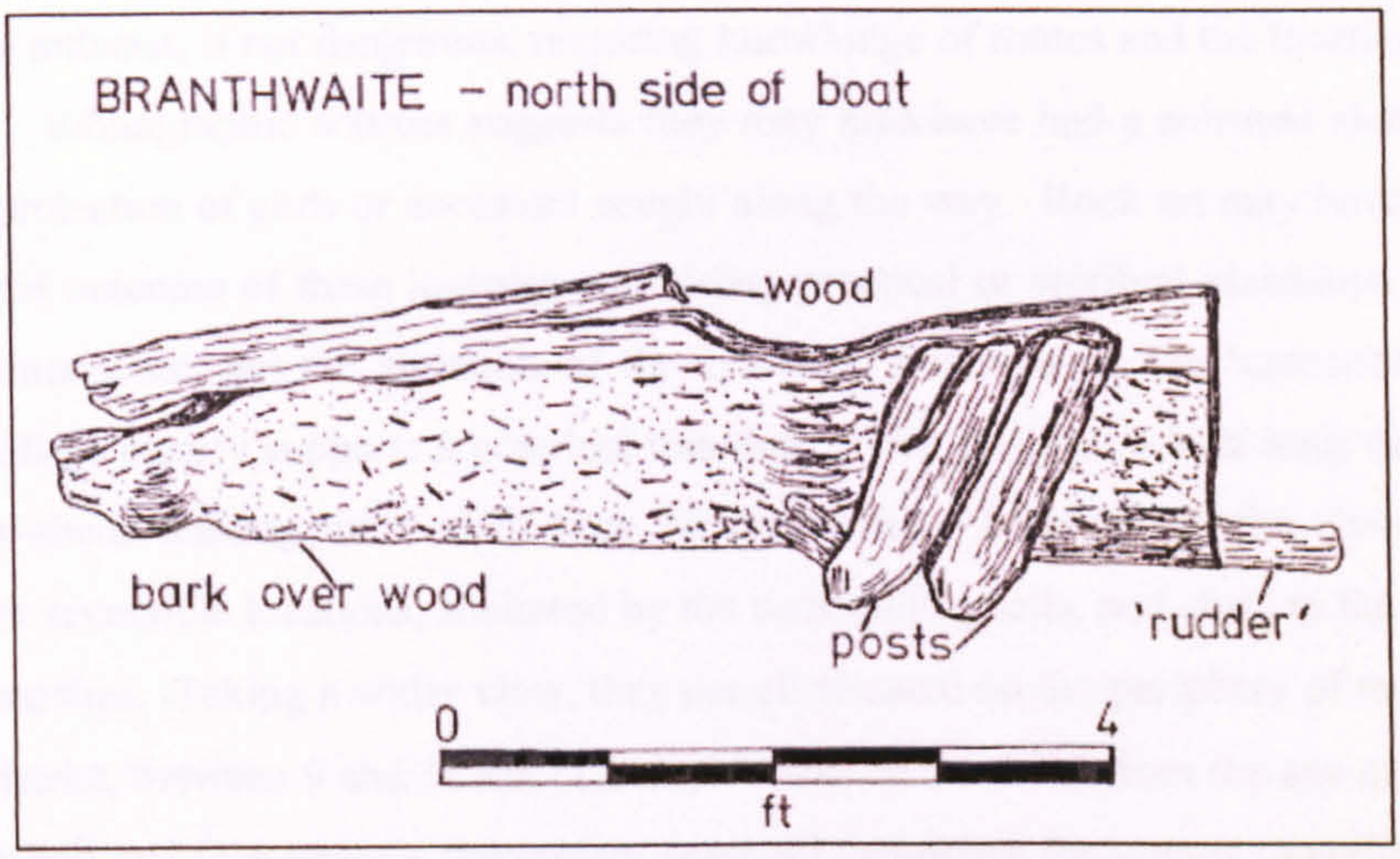


Figure 7-95: Dug-out boat found at Branthwaite, after (Ward 1974: fig. 2).

7.4.4 Concluding thoughts

The analysis of the cup-marked outcrops has revealed a number of similarities on several scales, from the motifs through to the outcrops selected and their situation within the landscape. Their distinctive characteristics set this group of panels apart from other Cumbrian examples and, indeed, from much of the rock art of Northern England, however parallels with individual elements of their form and position in the landscape have been identified elsewhere in Britain. These suggest connections with regions along the Atlantic coast; there is little to link the Cumbrian outcrops with rock art traditions across the Pennines to the east. The use of hard stone and prominent outcrops may be explained by geology but the location of these sites at nodal positions in the valley bottoms rather than on elevated moors, together with the paucity of other archaeology in the vicinity contrasts markedly with rock art hot-spots such as Howldale Moor on the North York Moors, and around the Millfield Basin in Northumberland and, although lower-lying, rock art concentrations around the Kilmartin valley in Argyll have a complex relationship with the ritual landscape, and tend to have more elaborate motifs. A closer parallel is the area around Loch Tay in Strathclyde, with rock art sites at the head of the loch and along the valley side, although here small boulders are preferred to large outcrops. The concentration of rock art in the Iveragh Peninsular in Ireland is perhaps the most comparable to that in the Lake District, being associated with valleys, lakes and routes through the mountains, but in terms of individual sites the closest parallel is that at Bryn Celli Ddu on Anglesey. The Cumbrian outcrop sites clearly have greater affinities with rock art around the Irish Sea coast than with the east of the country.

The distinctive characteristics of the Lakeland panels are suggestive of a common ideology and shared culture, perhaps reflecting a strong social network between groups inhabiting or visiting the central valleys. The position of the cup-marked outcrops at the crossings of route-ways suggests that they were carved by a society in which mobility remained important. Journeys may have represented a step away from familiar surroundings into relatively unknown landscapes. As such, they may have

been extremely arduous, if not dangerous, requiring knowledge of routes and the location of resources along the way. Ethnographic sources suggests they may also have had a spiritual element, with the goodwill and protection of gods or ancestors sought along the way. Rock art may have played a role in the successful outcome of these journeys, providing practical or spiritual assistance. The latter is difficult to demonstrate, but the situation of the Lakeland outcrops on the 'cross-roads' of routes between the valleys clearly supports a practical function. Their position within long valleys provides extended view-sheds making them ideal sites for establishing bearings on the distant mountains. They also mark accessible locations, sheltered by the surrounding fells, and close to the rich resources of lakes and marshes. Taking a wider view, they are all situated on the periphery of the central dome of the Lake District, between 9 and 18 km (1-2 days' walk on the fells) from the axe quarries at Great Langdale, Sca Fell and Glaramara - convenient seasonal campsites for groups travelling inland from the coastal plains or the Eden Valley, perhaps moving animals and/or visiting the axe quarries in the central mountains. As such they may also have marked a transition from travelling by canoe to journeying on foot and vice versa.

The association with these activities implies the carvings were made by largely mobile communities who were beginning to mark significant sites and create more permanent places with which they identified. Elsewhere in Britain, simple cup-marks are found on some of the earliest megalithic structures, including standing stones and megalithic tombs. It is possible that the cup-marked outcrops represent an early stage in the development of monuments with rock art providing a means to enculture the natural landscape. Such 'proto-monuments' are discussed by a number of writers who raise the possibility of both 'pre-megalithic Neolithic' communities and 'pre-Neolithic megaliths' (see for example Sherratt 1990: Tilley 1996; Bradley 1998c; Scarre 2002). Furthermore, the boundaries between natural and 'human-made' monuments have been blurred by studies which demonstrate the incorporation of landscape features within ritual sites (e.g. Tilley 1996; Bradley 2000; Barnatt & Edmonds 2002). Bradley suggests that natural rock formations may have been regarded by Neolithic people as the ruins of ancestral monuments (Bradley 1998c: 20). Concepts of 'natural monuments' are explored further in the following chapter which focuses on the rock art in a valley at the heart of the Lake District, very close to the stone axe quarries and possibly at the 'hub' of the social networks described above.

Chapter 8

The Axe Factor

The sacred and social dimensions of prehistoric carvings in the valley of Great Langdale

We are the children of our landscape;
it dictates behaviour and even thought in the measure to which we are responsive to it

Lawrence Durrell (1912-1990)

One particular rock art site in the heart of the central Lake District has proved the most enigmatic of all the Cumbrian examples, and demands a dedicated chapter. Discovered in 1999, it is located at Copt Howe near the village of Chapel Stile in the valley of Great Langdale (Brown & Brown 1999) (**Figure 8-1** and **Figure 8-2**). The smooth vertical face of an enormous block of volcanic rock is decorated with a complex arrangement of petroglyphs including concentric circles, chevrons and parallel lines (**Figure 8-3**); a second, adjacent block bears a single double-ring ring motif. No direct or relative dating evidence is available for the panel: no superimposition has so far been detected to suggest multiple phases of activity, and no excavation has taken place in the vicinity of the site. The boulder is one of several which lie in a cluster just above the valley bottom, yet the category of 'landscape' art seems inappropriate for these 'monumental' blocks. Further, the complex geometric motifs and the use of a flat, vertical surface do not fit happily within the 'open-air' tradition discussed in Chapter 7, which comprises much softer, more fluid designs echoing natural forms, and is most frequently carved on gently sloping or horizontal surfaces. Rather, the designs at Copt Howe are strongly reminiscent of the 'megalithic' art associated with passage graves, a style which flourished in the Boyne Valley across the Irish Sea, but which is also found at megalithic burial sites on Anglesey and Orkney, and on some monumental sites in Cumbria (see Chapter 9).

The Copt Howe panel therefore presents a puzzle – a complex composition of 'megalithic' motifs on a flat, vertical surface, yet in a natural, 'landscape' setting. These conflicting pieces of evidence need not be a problem: there is a growing recognition of the strong influence of landscape features on monumental architecture, and of the possibility that differences between the 'natural' and 'artificial' may have been less distinct in prehistoric minds (Richards 1996; Bradley 2000; Barnatt & Edmonds 2002). Further, a degree of overlap between 'passage grave' motifs, and less complex 'cup-and-ring' elements is recognised, particularly in areas associated with ritual monuments such as the Milfield Basin, Northumberland (Bradley 1997: 114), and Kilmartin, Argyll (Morris 1977: 23; Bradley 1997: 111; Jones 2006) where rosettes, horned spirals, and rings without central cups are present. Bradley suggests that these 'Boyne Valley' motifs may reference contacts with distant places (in this case Ireland) beyond the immediate landscape (Bradley 1997: 111). Complex motifs also tend to occur on the small number of carved vertical surfaces in the landscape, with 'megalithic' motifs identified on cliffs at Morwick in Northumberland (Beckensall 1999), at Ballochmyle in Ayreshire (Stevenson 1993), and at Hawthorndon near Edinburgh (Morris 1981: 147-150). Motifs in the 'plastic' style of

passage grave art (O'Sullivan 1986) occur on the imposing sandstone outcrop at Roughting Linn in Northumberland. Here, Bradley observes that "the most prominent designs...are on the steep flanks of the outcrop and form a kind of frieze around its edges", and suggests that "Originally it would have looked like a cairn with a decorated kerb" (Bradley 1997: 105).

A consideration of the wider landscape setting suggests a number of additional avenues for investigation which may help to clarify the context of the carvings. Great Langdale penetrates the very heart of the central mountain dome, an isolated and inhospitable part of Cumbria compared to the coastal plains or the Eden Valley. The carved boulders are conspicuous within the upper section of the valley, lying just above the flat, marshy flood plain of the Great Langdale Beck. To the north, the view is dominated by the distinctive silhouette of two of the five Langdale Pikes (**Figure 8-4**), the site of intensive stone quarrying and axe production during the 4th and 3rd millennium cal. BC (Bradley & Edmonds 1993) and it is highly probable that some form of axe production would have been taking place at the time that the carvings at Copt Howe were created and/or retained significance. Thus, far from being a remote, upland valley, at key times of the year Great Langdale may have been a busy thoroughfare for groups making their way to and from the stone sources, passing regularly by the carved boulders.

The following chapter considers the site using both 'landscape' and 'monumental' perspectives, with particular reference to the nearby mountains and stone quarries in order to gain a better understanding of the role of the carvings in the lives of prehistoric communities in Great Langdale.

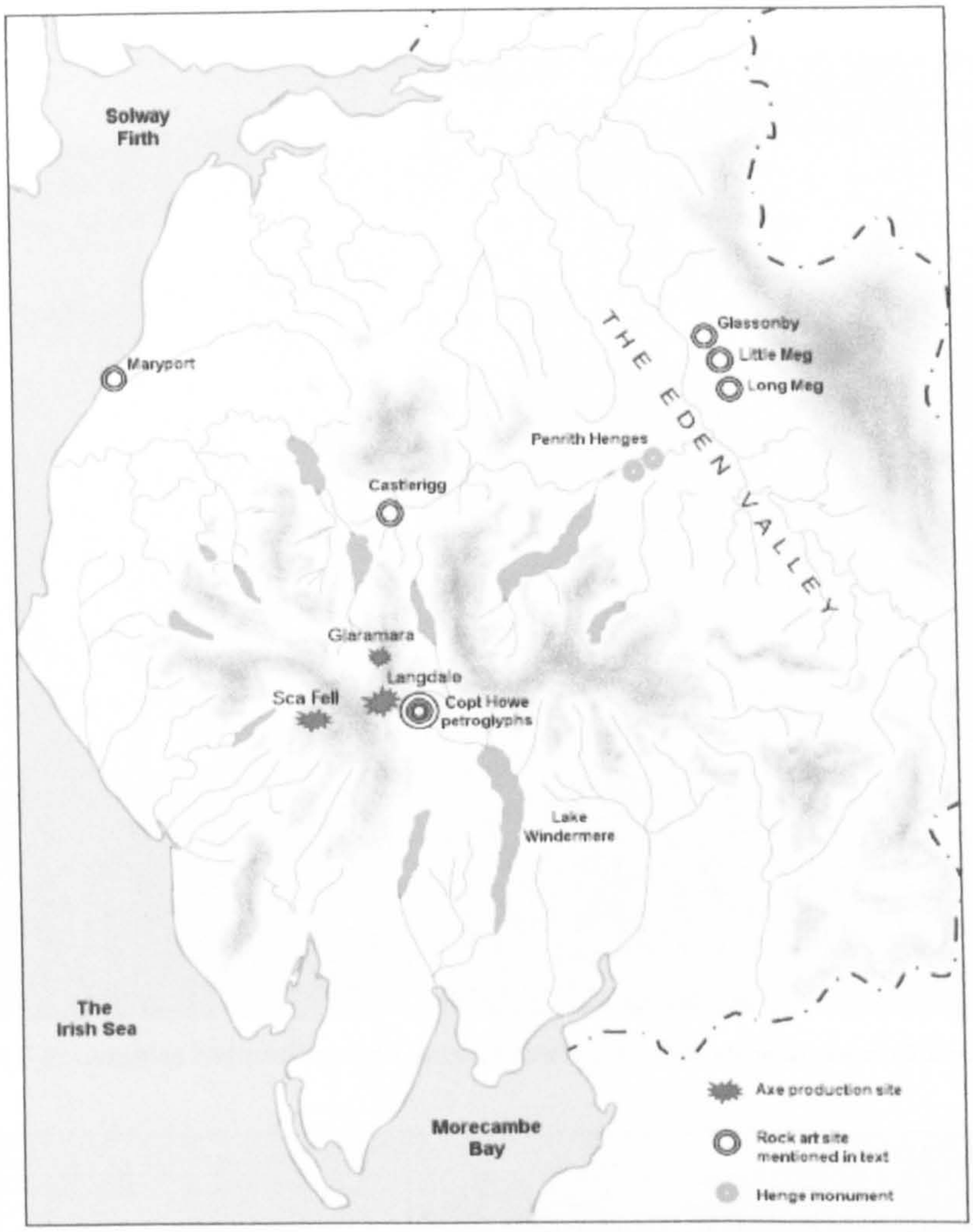


Figure 8-1: Central location of Copt Howe site.

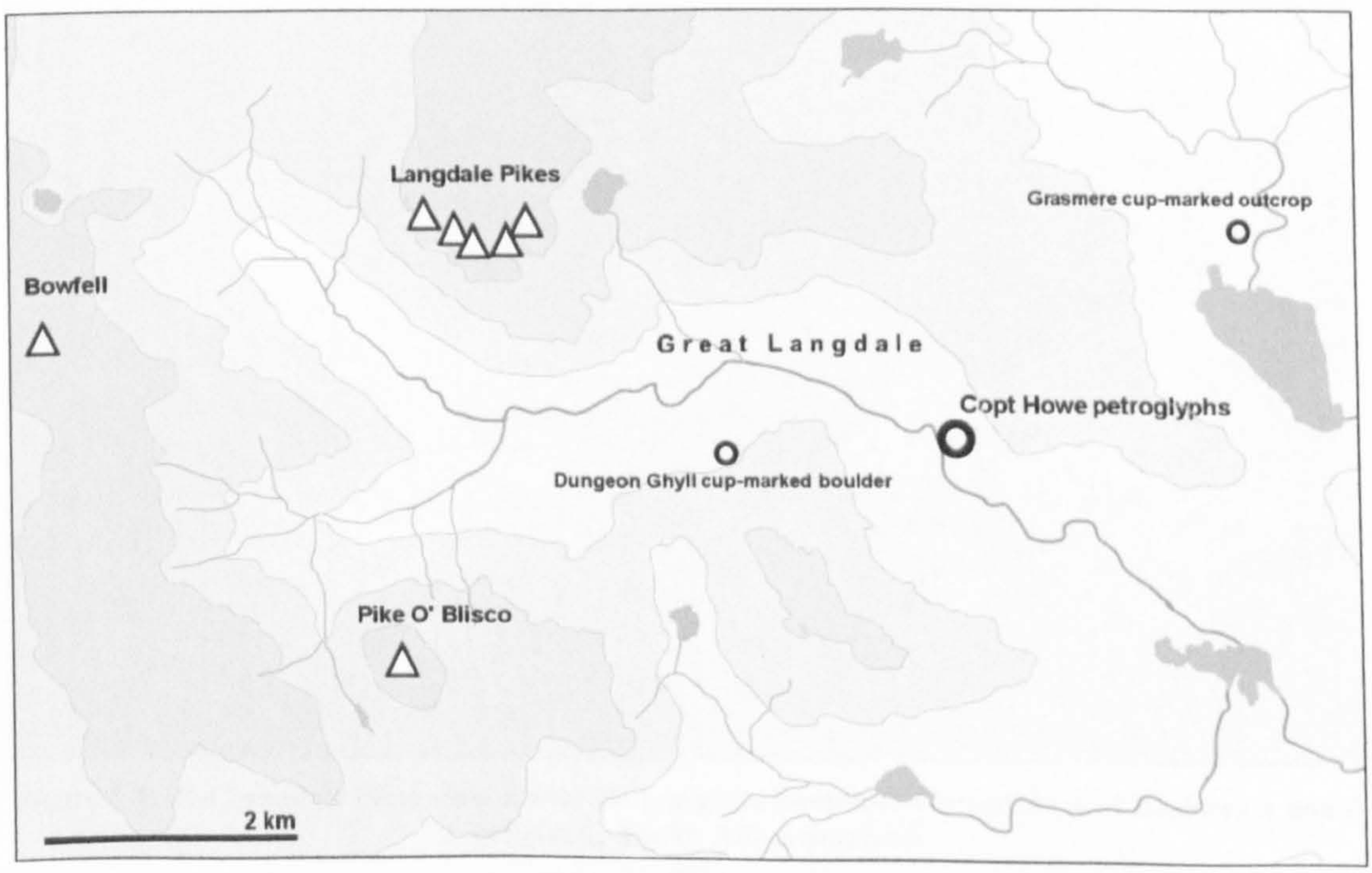


Figure 8-2: Topography of Great Langdale showing Copt Howe and other nearby rock art panels.



Figure 8-3: Complex composition and natural cupules on flat, vertical panel of Boulder A.



Figure 8-4: The Langdale Pikes viewed over the Langdale Boulders. Carved areas of Boulders A and B highlighted. Photo: Adam Stanford.

8.1 The Carvings (SMR 31719 and SM 32871; Grid ref: NY31400583)

Only the two largest boulders in the group are decorated; their gigantic size (each approximately 6m x 10 m x 3 m) suggests that the work was carried out *in situ*. Boulder A[1] is the most extensively carved although only on the vertical east face (**Figure 8-5**). The surface also has a number of natural cupules (**A**) formed by the differential erosion of mineral deposits in the rock (and used by local climbers as toe-holds!). At least one of these natural cups appears to have been utilized in the overall design, being enclosed by a ring (**A1**), and it is possible that it has been enhanced. The panel includes several motifs which hint at connections around the Irish Sea and also within Cumbria. These include a number of concentric circles with an un-worked, central 'boss' (**B**) - a design found on passage graves at Newgrange and Loughcrew (O'Kelly 1982) and in Cumbria on the Little Meg cairn in the Eden Valley (Thornley 1902), the Glassonby cairn circle (Collingwood 1901), and on a cobble found without context near Maryport on the west coast (Bailey 1888) (**Figure 8-6**). The panel also has four hemispherical motifs (**C1-C4**) which seem to disappear into (or appear from?) natural fissures in the rock surface, although **C1** may be the result of weathering, the rings to the right of the fissure, perhaps lost to spalling. The largest circular motif, with eleven concentric rings (**D**) (**Figure 8-7**) appears to be linked to a prominent linear element (**E**) comprising three parallel grooves forming an upward-pointing chevron (**Figure 8-8**) similar to that on a kerb stone of the Glassonby cairn circle (Collingwood 1901), and to designs found on megalithic sites such as Barclodiad y Gawres, Anglesey (Lynch 1967: fig. 6) and the on the Calderstones on Merseyside (Forde-Johnston 1957: fig. 2). Other features include an area of 'micro' cups (**F**) (**Figure 8-9**) similar to the 'diffuse' picking technique unique to megalithic art (Eogan & Aboud 1990) and a curious rectangular area of 'close' pecking (**G**) (**Figure 8-10**) also found in megalithic art, and reminiscent of figurative art of the Italian Alps. The lower motifs appear to extend below the present turf line and further carvings may be present beneath, especially since the position of the boulder, on sloping ground, is likely to have resulted in a substantial build up of material.

In stark contrast with the complex carvings on Boulder A, Boulder B bears only a single, double 'ring' motif on its south face (**Figure 8-11**) but a large section of the rock has been lost (**Figure 8-12**) and other petroglyphs may have been destroyed. The motif has a somewhat different appearance to those on Boulder A, the individual peck marks being more distinct, and the outer ring appears incomplete, but as with the other circular motifs there is no central cup mark.

Stylistically then, the carvings at Copt Howe have many resonances with passage grave art, but is it possible to learn more by looking beyond the motifs at the boulders themselves and at the surrounding landscape?

[1] Notation as used by English Heritage.

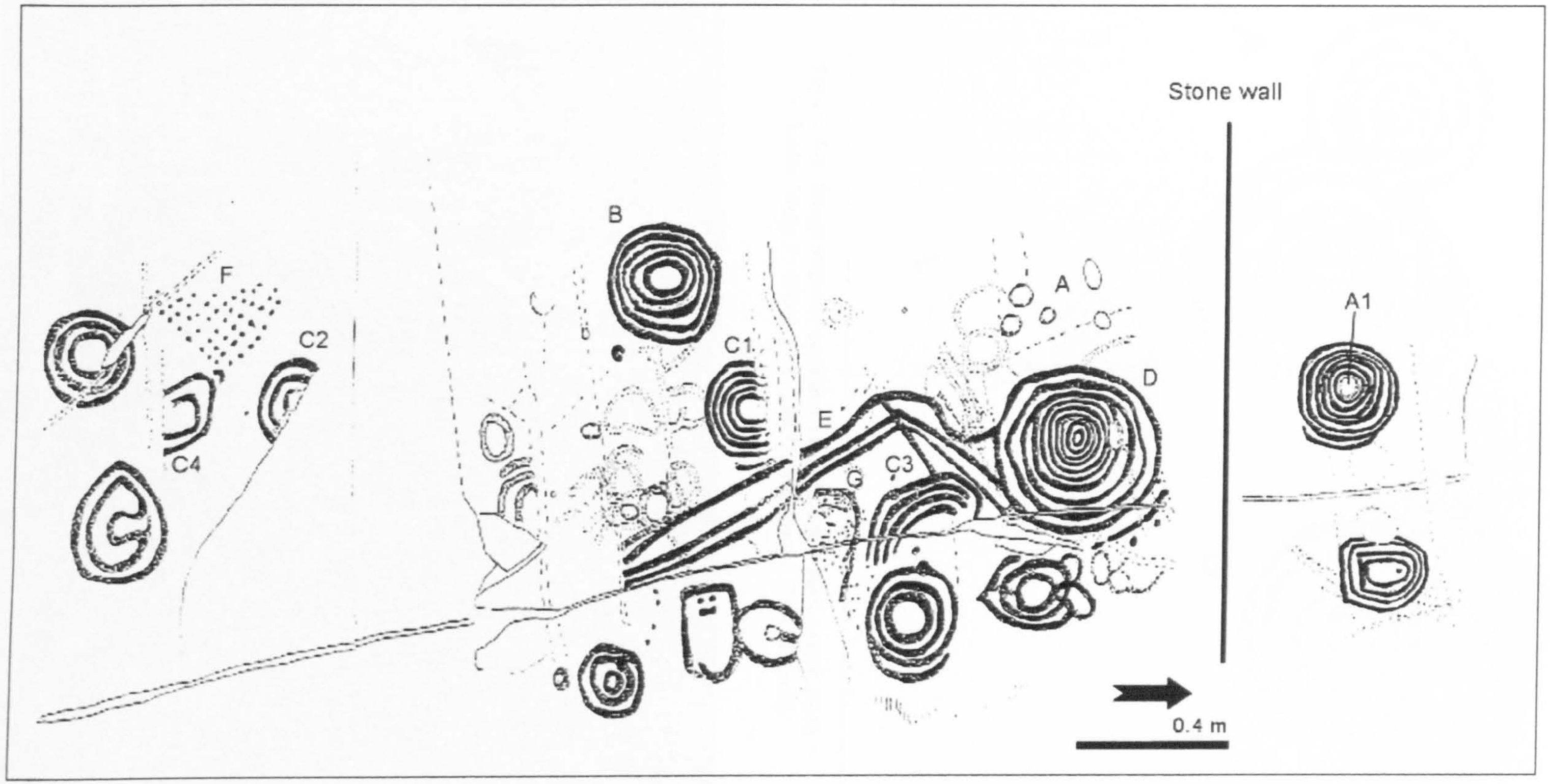


Figure 8-5: Interpretation of Panel A at Copt Howe. (After Beckensall 2002, fig. 39)

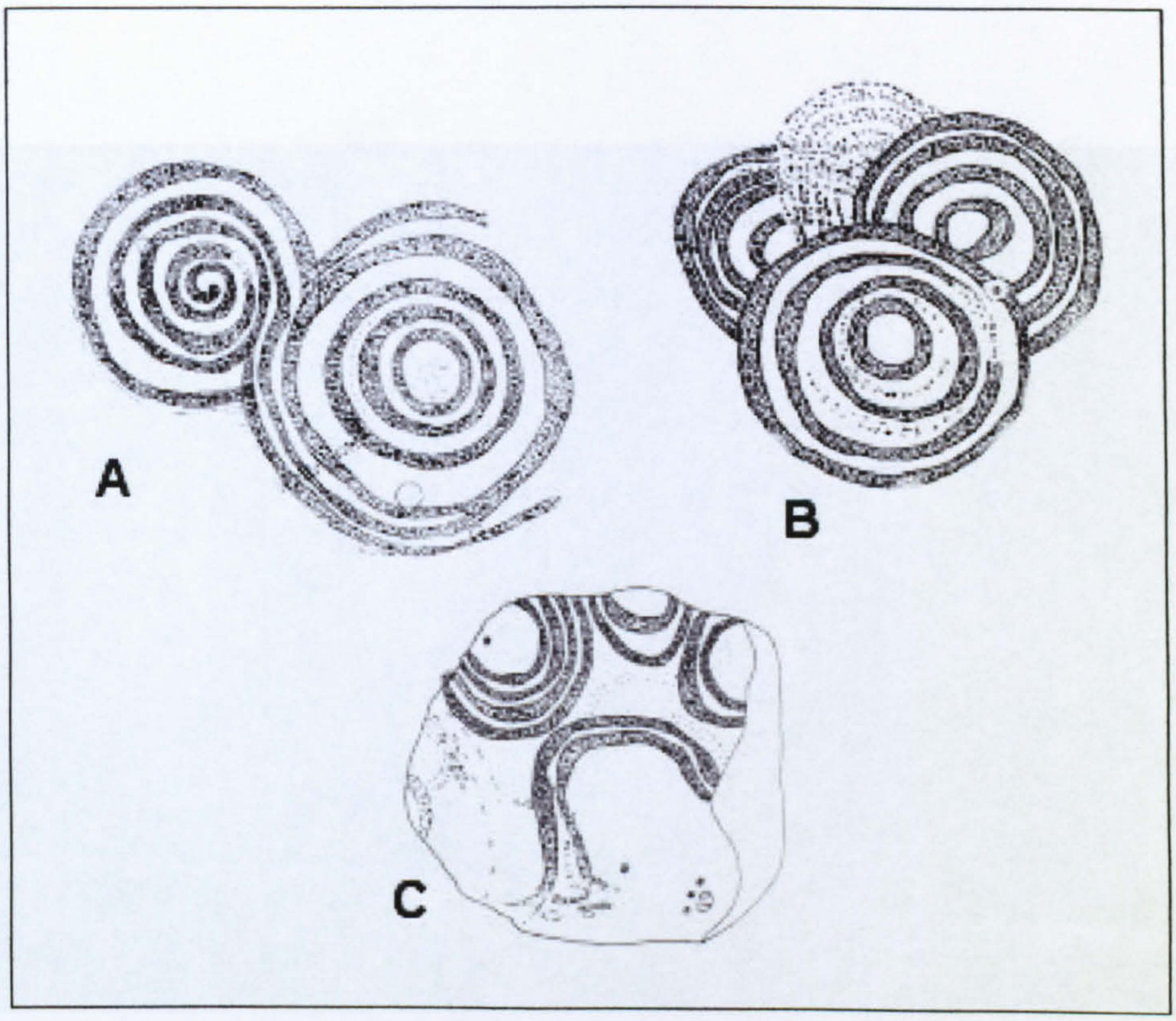


Figure 8-6: Rings without cups in Cumbria, after Beckensall, 2002.
A: Little Meg; B: Glassonby; and C: Maryport. (Not to scale)



Figure 8-7: Concentric ring motifs on Boulder A at Copt Howe.





Figure 8-8: Triple chevron design at Copt Howe (top) and below, detail from one of the Calderstones, Liverpool. (After Forde-Johnstone, 1957, fig. 2).



Figure 8-9: Area of diffuse pecking on Boulder A, Copt Howe.



Figure 8-10: Detail of closely-pecked are on Boulder A, Copt Howe, recorded by tracing.

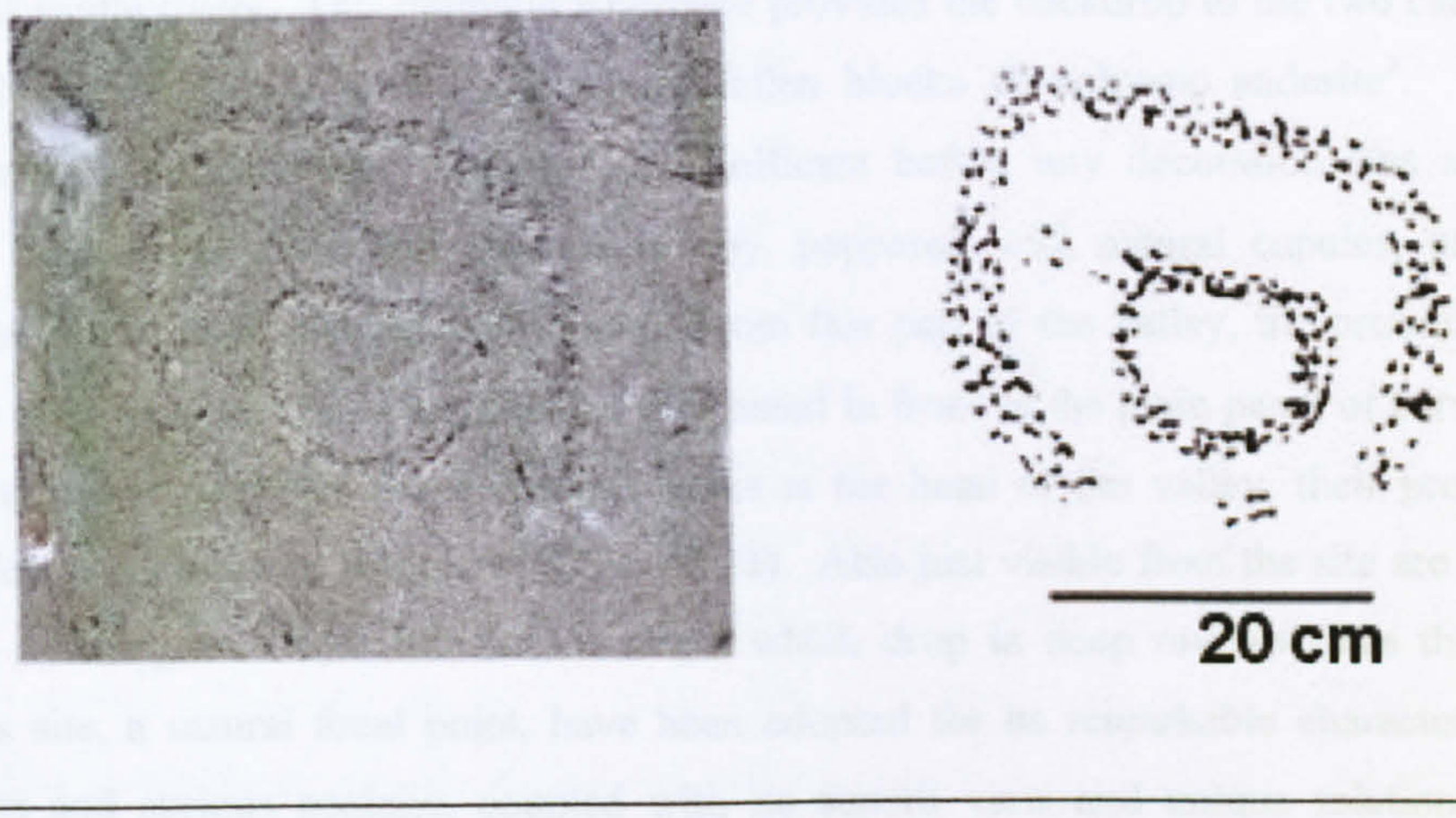


Figure 8-11: Incomplete (?) ring motif on Boulder B at Copt Howe.



Figure 8-12: Boulder B showing area of lost rock. Location of single motif indicated by white ring. Photo: Adam Stanford.

8.2 A Special Place – Connections, Social Memory and Sacred Dimensions

The core of the Lake District is composed of immense piles of volcanic materials: lavas, ashes and breccias which have interacted with water and ice to produce some of the most majestic scenery in Britain. Deep valleys and lakes, gouged out and smoothed by glacial action, radiate from the central massif of wild, craggy mountains, and extensive screes and boulder fields contrast with flat marshy pasture and gentle rivers. This dramatic landscape provides the backdrop to the two carved boulders at Copt Howe, the largest within a group of fallen blocks of volcanic andesite[2]. This unusual grouping may itself have been regarded as significant before any decoration was applied. The enormous boulders are, like many others nearby, peppered with natural cupules, often in linear patterns, adding to their striking appearance. From this part of the valley, the prominent Langdale Pikes also demand attention: to an observer positioned in front of the main panel of carvings, the two boulders appear to perfectly frame the two peaks at the head of the valley, their profile an easily identifiable and memorable landmark[3] (**Figure 8-13**). Also just visible from the site are the cascading waterfalls of Dungeon Ghyll and Stickle Ghyll which drop in deep ravines from the high peaks. Could this site, a natural focal point, have been adopted for its remarkable characteristics – giant proportions and curious geology, coupled with its superb view and unique relationship with the mountains?

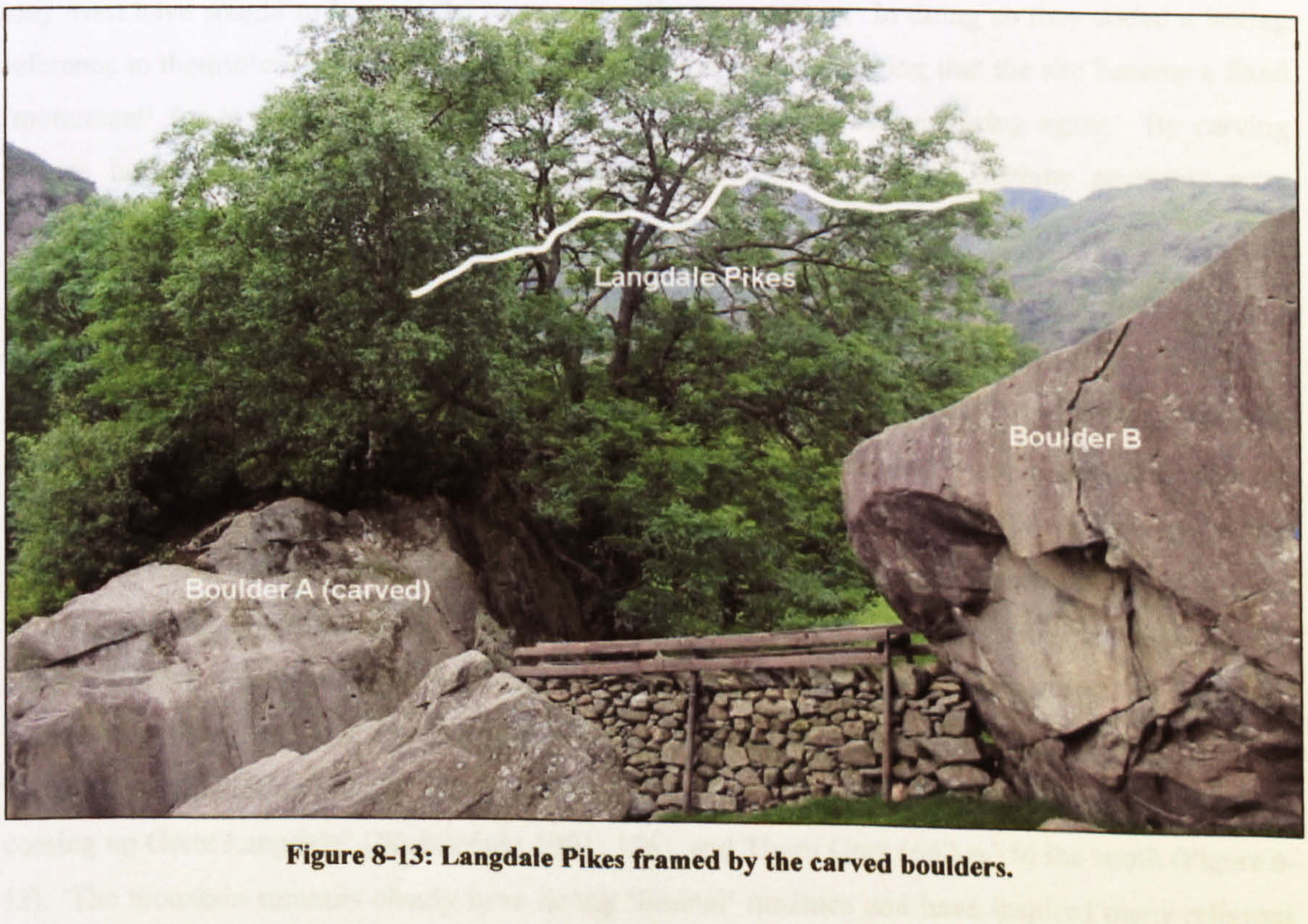


Figure 8-13: Langdale Pikes framed by the carved boulders.

[2] A much more coarse form of the andesite exploited for axe production.
[3] In the words of A. Wainwright, who perhaps knew this region better than most, 'Once seen, never forgotten…Other places may slip from the memory but the distinctive profile of the Langdale Pikes, once seen, leaves an indelible imprint on the mind…' (Wainwright 1991).

8.2.1 Making connections: space becomes place

Perhaps the people who first marked the stones did so to affirm their recognition of, and connection with, this special place. Analyses of monument building emphasise its role in the creation and maintenance of relationships between people and the landscape which they inhabit (see for example Bradley 1998c; Edmonds 1999; Russell 2002). The indelible marking of the landscape through carving may represent a less overt (though no less profound) precursor to architectural statements - an expression of a connection with the landscape through the conscious selection and permanent marking of a specific location, and an indication that this 'space' had become a 'place'? In Chapter 3 it was suggested that such relationships with the landscape may have been used to establish and support group identities through shared memories and the creation of mythology. Striking locations such as Copt Howe would be extremely memorable, and simple to describe and convey. It is easy to believe that prehistoric people who encountered the enormous boulders were inspired to adopt and incorporate this unusual and evocative place into their own folklore, perhaps even considering them to be megalithic structures built by a much more ancient society as suggested by Bradley (1998: 20). The many geological cupules on the boulders may have been regarded as ancestral art, and both enhanced and incorporated into the design; one natural cupule is surrounded by concentric rings (**A1** in **Figure 8-5**) and some motifs appear to relate strongly to major fissures. Communities encountering the 'ruin' may have felt a responsibility to care for this important place. By carving their motifs they may even have sought to harness the power of earlier generations. In doing so they added a lasting reference to themselves for both present and future generations, ensuring that the site became a fixed 'monument' for many years, the carvings becoming a powerful and enduring agent. By carving images into the rock surface those who themselves would ultimately become ancestors were providing a permanent legacy and creating a point of connection with generations to come.

8.2.2 Sacred dimensions

An association with spirits or ancestors may have inspired the initial development of 'place value' at Copt Howe. As noted in Chapter 3, ethnographic studies have revealed many connections between rock art and sites with spiritual significance, with carvings or paintings used to mark locations where links between the living and the dead or between real and spiritual worlds occur. At Copt Howe, the landscape in the immediate vicinity of the boulders is not itself especially 'liminal', but the site appears to have a strong natural link with the mountains at the head of the valley, the two decorated boulders separated by a narrow gap which perfectly frames the distinctive peaks of the Langdale Pikes: Harrison Stickle (732 m), "a dark tower of rock, the object that most attracts the eyes of visitors coming up Great Langdale" (Wainwright 1991: 156), and Thorn Crag (642 m) to the south (**Figure 8-13**). The mountain summits clearly have strong 'liminal' qualities and have inspired many religious analogies: "...their sharp volcanic spires dominating the valley...Harrison Stickle stands like a great cathedral above the lower crags and buttresses..." (Harris 2002: 64). Wainwright notes: "...they are greatly loved by devotees who return time after time as pilgrims to a shrine..." (1991: 149). Just

below Pavey Arc, the still depths of Stickle Tarn unite the elements of water, earth and sky, and Bronze Age ring cairns in the vicinity suggest this was considered a sacred site.

Although difficult to demonstrate conclusively, a relationship between the Langdale Boulders and the nearby mountains, created by the fortuitous natural framing of the peaks between the two carved boulders, could suggest an indirect spiritual element to the activities at the boulders, and may have inspired the carvings. Indeed, the physical dimensions and arrangement of the boulders coupled with the passage grave style of the motifs suggest close affiliations with the megalithic art associated with ceremonial gatherings, burials and religious activity. This role as a 'natural monument' is explored in the following section.

8.3 Monumental Associations

Although the Langdale Boulders are a natural grouping, a number of pieces of evidence suggest they fulfilled a 'monumental' role. The style of motifs and their placing on the vertical surface has been likened to the art associated with passage graves, and with ritual landscapes such as those found at Milfield and Kilmartin; it has been suggested that Neolithic communities encountering the site may have regarded it as a ruined remnant left by a more ancient society. There are other aspects of the site which support the concept of a 'natural monument' including the arrangement of the boulders which creates an enclosed space and passageways, and the sloping ground which creates a small 'arena', focussing attention on the main carved panel in the 'stage' position. Further, the mountains framed by the carved boulders were the site of extensive Neolithic stone quarries. The production of stone axes has been shown to involve many ritual and symbolic aspects, and their trade or exchange has also been strongly associated with ceremonial monuments such as the stone circles at Swinside and Long Meg and Her Daughters, and further a-field at Llandegai henge in Gwynedd (Houlder 1968), and with causewayed enclosures including those at Windmill Hill (Smith 1965) and Etton (Pryor 1998). Such sites are associated with relatively large numbers of people, gathering at specific times of the year. The carved boulders lie on a natural route into the axe quarries very likely to have been used by stone-workers, such that the site would have been passed on a regular basis by groups converging seasonally in the valley. Indeed, the site may been part of a ceremonial route to the quarries, similar to that explored by Price at the Graig Lwyd axe factories in North Wales (Price 2004). Edmonds suggests that the quarries can themselves be considered as 'monuments' where people from many parts of the region (and beyond) congregated on a regular basis to tell stories, share experiences and engage in rites of passage (pers. comm. 2007). This more intense activity during the summer months may have led to the discovery of an additional monumental aspect of the carved boulders: the relationship between this particular position in the valley and the movements of the solstitial sunset in mid-summer. These monumental associations are explored in the following section.

8.3.1 Architecture and choreography

The two carved boulders are part of a larger group comprising several substantial rocks which form a loose 'enclosure' such that the carvings are on the 'internal' walls. The boulders appear to lie where they fell, in pasture which slopes quite steeply down to the Great Langdale Beck, and the group is now bisected by a modern dry stone wall running north-east to south-west down the slope. Boulders A and B are separated by a gap of approximately 2 m, the stone wall effectively blocking the 'passage-way' between them. The carved eastern face of Boulder A forms one side of the passage, the opposite side created by the much-damaged (and partially overhanging) western face of Boulder B. Exactly when and how this damage occurred is not clear and although no carvings are present on this 'wall' of the passage, motifs may have been lost. As already noted, to an observer positioned in front of the carvings the two inscribed boulders frame the Langdale Pikes at the head of the valley. When the site is approached from the top of the slope, to the north-east (to the south of the modern wall) the view of the carvings is restricted by other stones which channel movement via another natural 'passage-way' (**Figure 8-16**) into an open area immediately in front of Boulder A. An 'amphitheatre' effect is created by the surrounding rocks and the slope of the hillside, drawing attention to the panel of carvings in the position of the 'stage' (**Figure 8-17**). Further down the slope to the south, access is more open but once again the carvings cannot be seen until the observer reaches the 'stage' area. Boulder B has a further interesting architectural aspect: toward the upper end of the carved face, almost directly below the single motif, a small gap opens into a substantial 'cave' beneath the boulder (**Figure 8-18**). This is now largely filled by earth which has washed down the hillside, but may once have been much larger.

Could the natural arena formed by the decorated boulders, coupled with their fortuitous framing of the Langdale Pikes, have resulted in the adoption and marking of the Copt Howe site as a 'natural' monument? The building of monuments is considered to represent a watershed in the prehistoric mindset, dividing the 'passive', Mesolithic from the more 'active', structured Neolithic (Thomas 1991; Bradley 1998c). It is argued that early relationships with the landscape were embodied in emotional attachments to places with a generalised power, significance of place being understood in terms of its setting in the landscape. In later periods ancestral powers were actively appropriated through construction of monuments which permanently captured the connections. Landscape came to be viewed in terms of the setting of monuments, which exerted control, channelling and mediating experiences of spaces through architectural form and restricted points of view (both literal and metaphorical). However, the distinction between 'built' and 'natural' monuments may have been less important within the prehistoric world-view, and the transition a very gradual process. Evidence suggests that the natural world was influential in the creation of many monumental sites, informing the location (on various scales), the orientation, the form and the materials incorporated. Artificial constructions appear to encapsulate the nature of their surroundings, reproducing or reflecting them in architectural form (Tilley 1996; Bradley 2000; Barnatt & Edmonds 2002; Cummings et al. 2002). Such citation of the natural landscape is apparent in some of the early monuments in Cumbria. The stone circle at Castlerigg, for example, is set in an arena of mountains where the heights and shapes of

the stones are argued to reflect the surrounding skyline. Bradley observes that Castlerigg "seems to crystallise the characteristic features of the landscape into which it is built, with a façade of standing stones confronting a chain of monuments…Castlerigg forms a direct equation between the monument and the mountains beyond, among them the source of Cumbrian axes" (Bradley 1998c: 122-128).

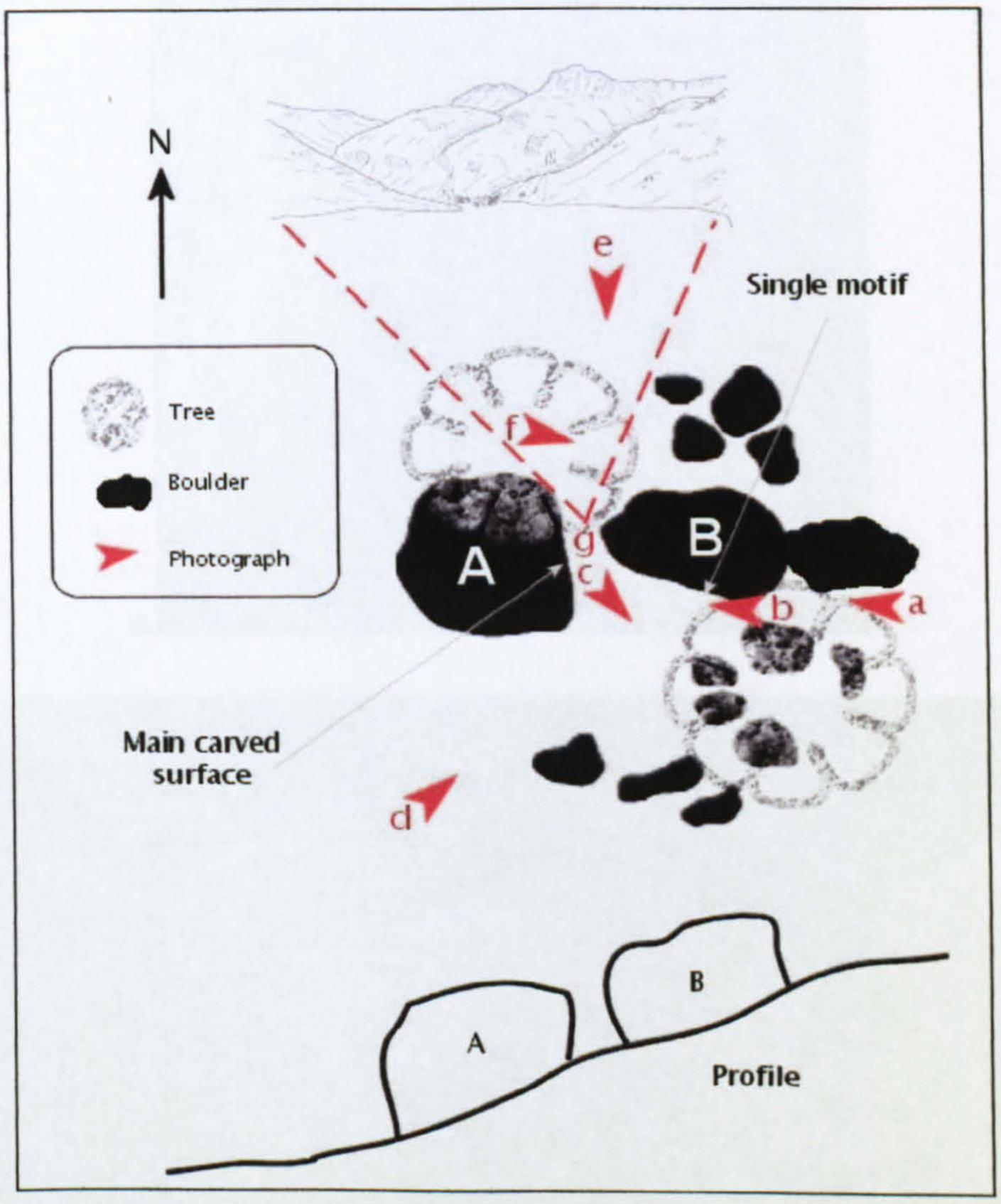


Figure 8-14: Sketch plan and profile of the group of boulders (modern wall not included). Red arrows indicate direction of photographs in Figures 8-16 and 8-17.

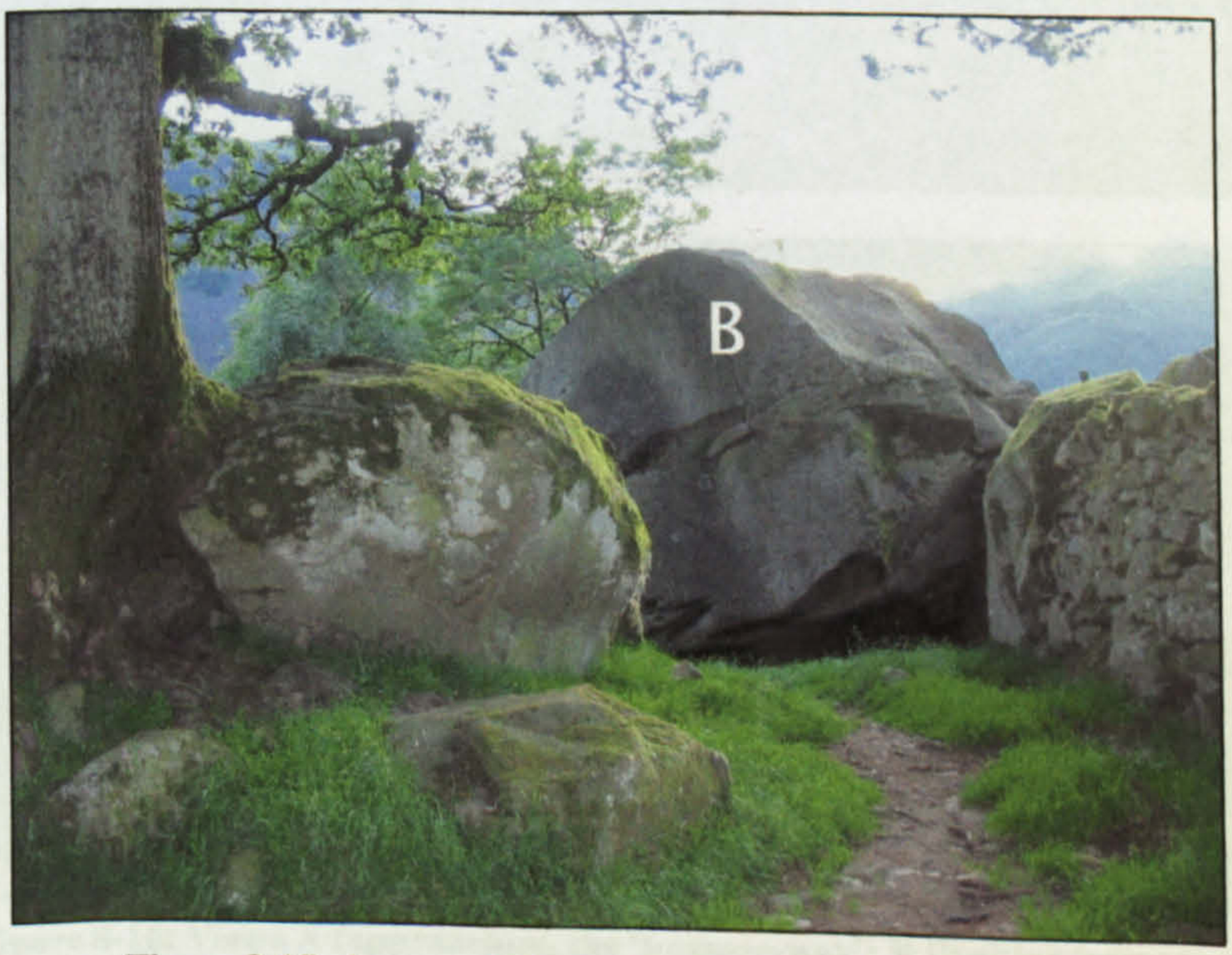
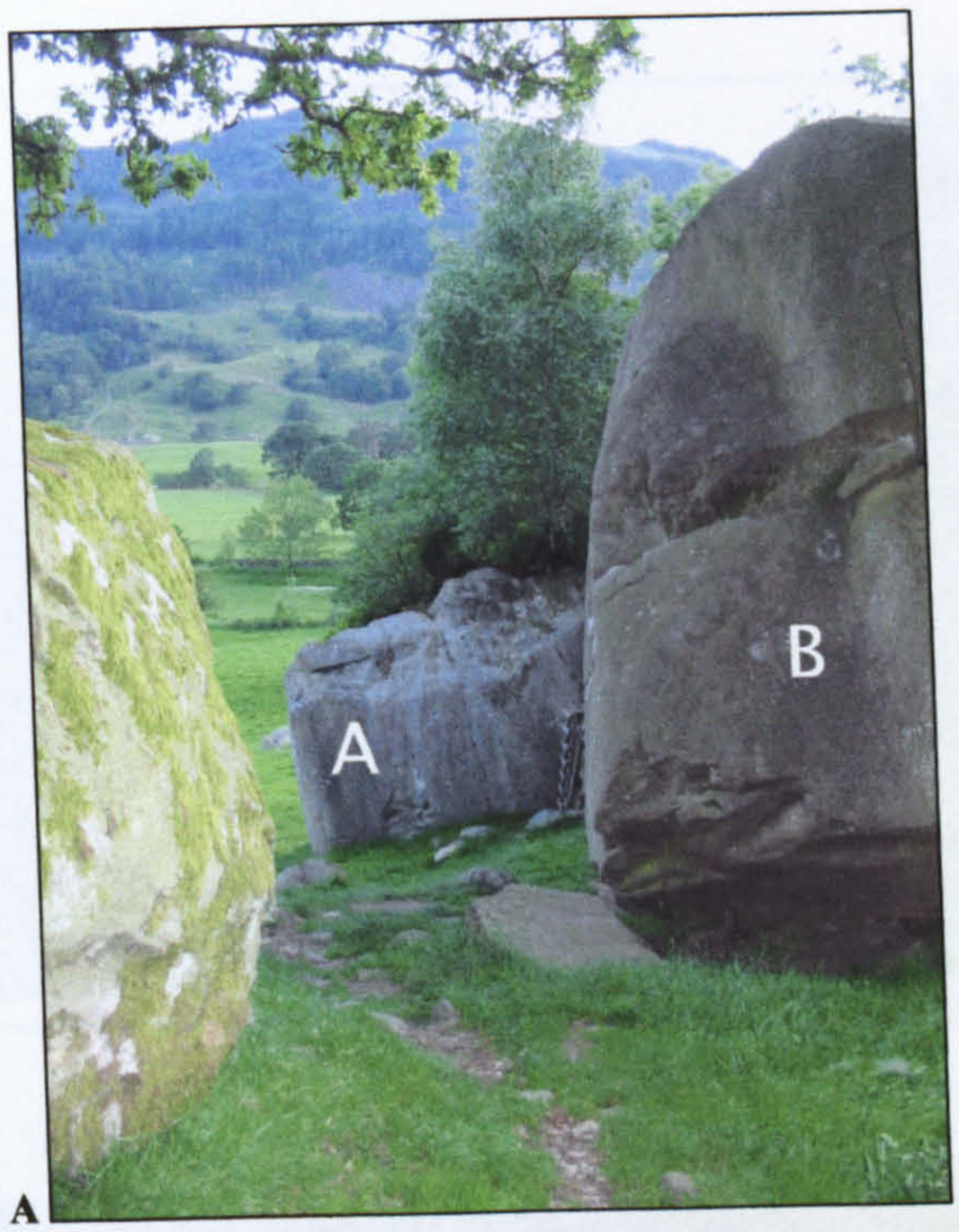


Figure 8-15: Approaching the 'passage-way' from the east.



A



B



C

Figure 8-16: Views A (approaching the 'passage-way'; B (looking towards the 'stage'); and C (view east from the top of Boulder A).

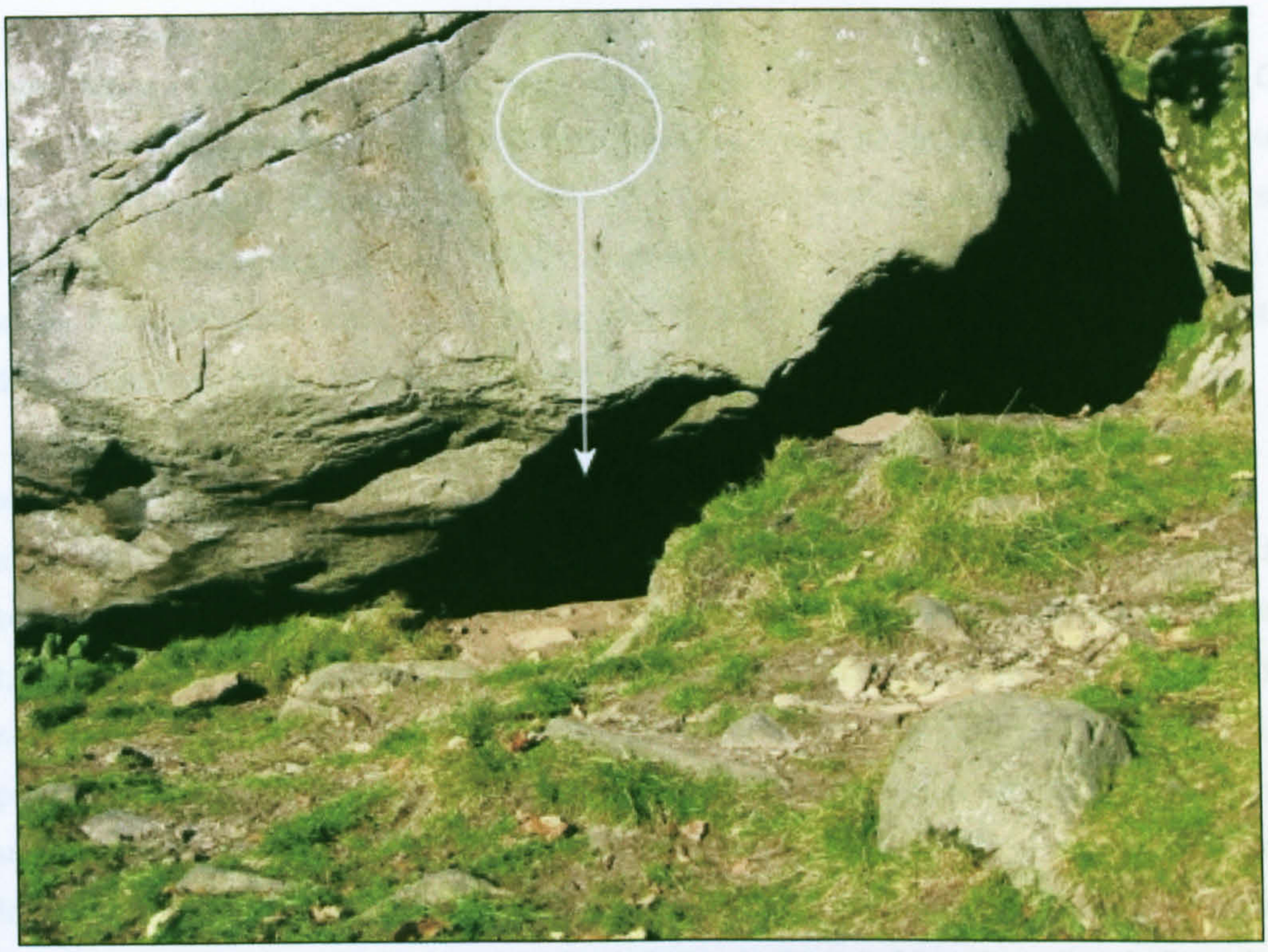


Figure 8-18: The 'cave' directly below the motif on Boulder B. Photo: Adam Stanford.

At Copt Howe the arrangement of boulders seems to echo many of the features associated with monuments: the enclosed circular space with restricted access and views is reminiscent of both stone circles and henges, and the narrow 'passage-ways' choreograph movement into the space in front of the main panel. The complex and angular carvings on interior, inward facing panels can be likened to those found in the central chambers of passage graves, possibly restricted to an elite audience and perhaps reflecting a desire to impose control over natural forces. This is certainly the overwhelming experience at Copt Howe; the enclosed space suggests an exclusivity that is not in evidence at the carved outcrops and boulders usually defined as 'landscape' art. Activities conducted in front of Boulder A would have been visible only to the limited number of participants who could fit or were permitted within the boulders, which would screen the carvings from more distant onlookers for almost 360 degrees.

The gap between the carved panels is aligned on the valley and the mountains, and may have facilitated an additional component to activities at the boulders. This passage may have functioned as a natural 'gateway' controlling entry to the upper part of the valley. Concepts of physical and virtual thresholds: barriers between 'pure' ('sacred') and 'impure' ('profane') areas, crossing points for initiation rituals, figure strongly in the anthropology of stone axe production and the Copt Howe site may have marked the beginning of a more sacred part of the valley where particular rules applied, or which could not be entered without appropriate ritual. The following section takes a closer look at the processes, rituals and symbolism of stone axe production both in Langdale and elsewhere, in order to better understand the possible role played by the carved boulders at Copt Howe.

8.3.2 The axe factor

Enormous heaps of debitage stand witness to the extensive exploitation of the rock face in Great Langdale; type VI stone axes[4] (**Figure 8-19**) from these peaks account for 39.5% of all British axes of known origin (Clough & Cummins 1988: table 2). The main working site is located on the steep, south-western scree-slopes of Pike O' Stickle (**Figure 8-20**) but piles of waste flakes are found right across the Pikes including some close to Dungeon Ghyll, and on the slopes of Harrison Stickle (Bradley & Edmonds 1993), both directly visible from the rock art site.

Social focus

Social aspects of stone tool production and distribution in prehistoric Europe have been explored by a number of researchers (Bradley & Edmonds 1993; Petrequin et al. 1993; Edmonds 1995; Cooney 1998; Thirault 2005), and a connection has been proposed between rock art and stone quarries in Norway (Bruen Olsen & Alasker 1984; Mandt 1995). Here, links are suggested between a diabase axe-production site at Strakanest on the west coast and petroglyph sites at Vingen (40 km north) and at Ausevik (10 km south), and also between a greenstone quarry on the island of Hespriholmen and carvings in central Hordaland. It is argued that the discrete distribution patterns for axes from each quarry define two distinct social territories, the rock art clusters marking sites of periodic gatherings during which collective activities, including the production of stone tools, took place. Although the large distances in this example make convincing associations problematic, the concept of seasonal journeys to quarries is supported by ethnographic data (e.g. Burton 1984) and can certainly be applied to Langdale where expeditions to the mountain summits may only have been feasible during summer months. In Cumbria, the larger stone circles such as Castlerigg, Long Meg & Her Daughters, and Swinside, and the henges at Mayburgh, have long been associated with gatherings (see for example Collingwood 1933: 163) and a number of stone axes have been found in or close to them[5]. Burl argues that: "A place where (such) axes were bartered would thus be not only a meeting place and market but also a temple in which trade and ritual went hand in hand" (Burl 1976: 82). This connection with stone circles does not, however, preclude similar activities occurring near the production site in Great Langdale. The petrology of the hammerstones used to break up the rock indicates diversity of origins, implying the presence of groups from a wide catchment area. As a seasonal occupation, quarrying may have been the focus of a major social occasion, attracting many participants in both active and supporting roles. Edmonds suggests the products of these expeditions were not limited to roughed-out axes but included less tangible commodities such as new stories, gossip, ideas, experience, increased (or reduced) status, and new alliances, as well as the physical reminders of injuries, scars and respiratory conditions caused by the dangerous and inhospitable conditions at the rock face.

In any event, the Langdale valley is likely to have become a major arena for these social exchanges, providing a key thoroughfare for stone workers approaching the quarry sites, and for the transport of

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[4] The term 'axe' is used here to refer to stone axe-heads, either polished or roughed-out.
[5] These may have been deliberate deposits: at Mayburgh a broken rough-out was found in the entrance and two rough-outs and a polished axe head are recorded from within the Castlerigg circle (Clare et al. 2002)

roughed-out axes to lowland 'finishing' sites prior to trade and exchange within and beyond Cumbria. Groups travelling through the narrow valley must surely have passed close to the boulders at Copt Howe. Although axe production on the scale seen at Great Langdale undoubtedly involved many social, practical, and logistical aspects, it has also been demonstrated to involve a large degree of ritual, a fact supported by ethnographic observations.



Figure 8-19: Roughed out Group VI axe.



Figure 8-20: Site of the main stone quarry at Pike O' Stickle.

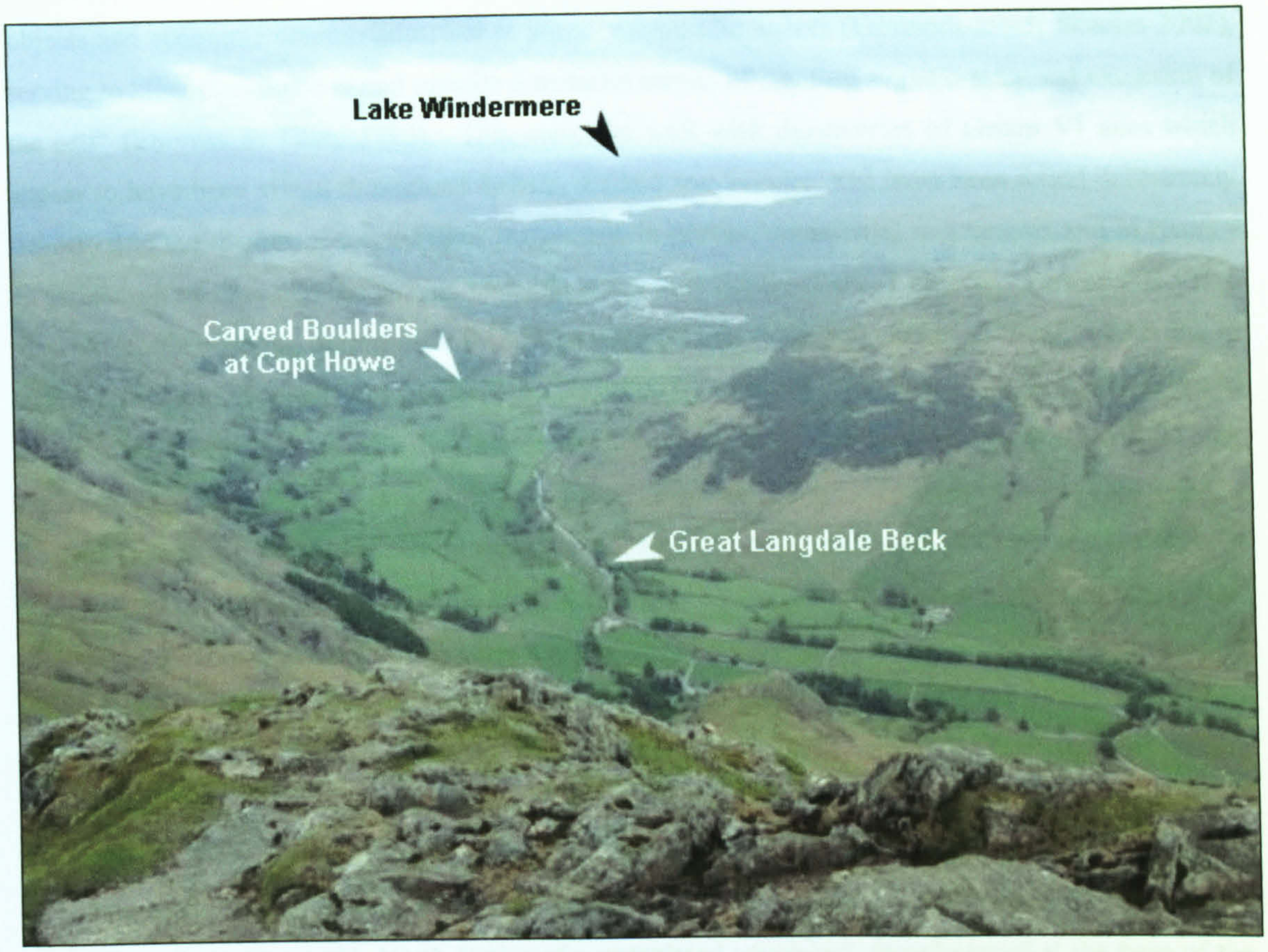


Figure 8-21: The valley of Great Langdale viewed from the summit of Loft Crag, showing the location of the carved boulders and the route south via Lake Windermere.

Sacred mountains and symbolic stones

Assumptions that prehistoric quarry workers would endeavour to maximise output and minimise labour were challenged when experimental work (Bradley & Ford 1986) demonstrated that at Great Langdale, workable stone at low levels was in many cases passed over in favour of outcrops situated in less accessible, more demanding locations. The fine-grained andesite tuff which attracted prehistoric stone workers is exposed over a distance of 19 km, yet the main quarry sites are situated on narrow ledges, high on Pike O' Stickle – both difficult to reach and potentially treacherous for those who worked there. More accessible material which might be considered (by geological standards) to be of higher quality was ignored. Bradley wonders: "Might some of the importance attached to the axes produced there result from the circumstances in which they were made?" (2000: 83). Evidence from contemporary quarries at Creagh na Caillich in Perthshire and Tievebulliagh, Co. Antrim supports the observations at Langdale (Edmonds 1995) (Edmonds 1995: 59-61; Cooney 1998: 110-113), and at Le Pinacle on Jersey, dolerite axes were crafted near a massive outcrop of granite, a prominent landmark within the sacred landscape of the Channel Islands (Patton 1991: 25). Prehistoric quarries have also been identified at Rathlin Island off the coast of Ulster (Williams 1990) and at Lambay Island (Cooney 1996). All these locations were isolated from the sphere of everyday life, and as such may have been considered sacred, transitional places, perhaps offering the dual advantages of spiritual kudos and limited access, and thus adding a prestige value to the resulting axes. Indeed, recent approaches to the study of stone tools stress their role, not simply as functional

objects and economic commodities, but as socially symbolic agents (Edmonds 1995; Skeates 2002), serving to "link communities and provide a material means of creating a spatio-temporal extension of the self' (Thomas & Tilley 1993). This view fits well with discoveries of Group VI axes which appear to have been prized throughout Britain, Ireland and beyond, and have been found deliberately deposited in the ditches of causewayed enclosures, in graves, ceremonial monuments and in rivers - an indication of their significance as valuable and symbolically-charged objects. Part of this value may have been acquired during manufacture, potentially involving an element of ritual. Operating in such inhospitable locations was undoubtedly perilous, with risk of falls, injuries from falling rocks or fire-setting, but they may have had additional concerns, such as ensuring the good will of any supernatural beings living in or guarding the stone. Edmonds suggests that the physical response of the rock face to the process of fire-setting (demonstrated to have been used at Great Langdale), with cracking and hissing sounds emanating from within may have caused the stone-workers to regard it as 'living' or inhabited by spirits. Ethnographic evidence supports this idea. The Tungei people of Papua New Guinea operated axe quarries until the early twentieth century (Burton 1984). Quarrying was governed by a strong belief system: two spirit sisters were held to control access to the stone and success was attributed to the correct axe-making magic and ritual purity, with segregation from all things 'female'. The quarrymen established enclosed camps from which women were strictly forbidden. Similar beliefs in appeasing spirits may explain the discovery at a Neolithic axe-production site in Gwynedd, North Wales of a completed rough-out, found placed at the base of the quarried rock face, covered by debitage (Williams 1984: 36-38). Was this an accidental loss or an offering to the gods to ensure a safe and productive expedition?

Perhaps then, the petroglyphs at Copt Howe were connected to ritual practices relating to stone axe production and circulation. The boulders may have marked the threshold of a restricted, sacred area, or signified the division between the safe lowlands and the more dangerous mountains. The site may have been the focus of activity prior to, or on completion of expeditions into the mountains – a place to placate the spirits or celebrate a safe return and successful season. Such speculation cannot currently be supported by material evidence, but the ethnographic parallels suggest useful directions for future investigation.

The seasonal aspect of the activity in Great Langdale suggests one further aspect of monumental ritual worth exploring: megalithic art is strongly associated with monuments having astronomical alignments, for example passage graves and stone circles. Perhaps the natural 'architecture' of the boulders can provide further clues to the carvings at Copt Howe.

8.3.3 The art of astronomy

A common element of prehistoric monumental architecture is a frequent adherence to alignments dictated by astronomical observations, sometimes by incorporating natural features on the horizon. Such alignments can be interpreted in the context of wider considerations of cognition, cosmology and, more recently phenomenology. In Bradley's words: 'incorporating into its structure an important

astronomical alignment, those who built it made those developments appear to be part of the functioning of nature' (in Barrett et al. 1991: 58). Prehistoric communities were naturally concerned with the movements of the sun, stars and moon which played a vital role in the marking of time and were crucial for navigation. An understanding of the changing seasons, and a concept of the future allowed vital forward planning ensuring that food sources were maximised and journeys undertaken in favourable conditions.

The most widely accepted alignments are those based on the solstitial sunset or sunrise, incorporated into monuments through the control of light into internal chambers or the alignment of stones with the horizon. A number of such monuments in Britain and Ireland are also decorated with petroglyphs, the most elaborate being the passage graves of the Boyne Valley at Newgrange (O'Kelly 1982: 230-231) and Knowth (Eogan 1986). In addition to focussing monuments on major celestial events it is also suggested that prehistoric astronomers used alignments to observe more accurately the date of the solstice. By viewing (from a fixed and specified position) the sun setting over a mountain slope or 'notch' between mountains, where it was visible only on the solstice, a precise determination could be made (for a detailed discussion see Ruggles 1999: 21). This theory may explain the carved Boheh Stone in County Mayo, situated 7 km from the distinctive (sacred) mountain of Croagh Patrick. On 18 April and 24 August when seen from the carved rock the setting sun appears to 'roll' down the side of the northern face of the mountain (Bracken & Wayman 1992; Bradley 1994; Van Hoek 2001: 7). In Cumbria, petroglyphs have also been recorded at a stone circle, Long Meg & Her Daughters, which has strong astronomical associations. Burl notes: "to detect a solar line at Long Meg is no surprise. But that it was physically carved, like a celestial advertisement, in a symbol that was widely understood is unexpected" (Burl 1976: 40).

In order to determine whether Copt Howe had a particular relationship with solstitial events, observations were made around the summer solstice. At this time of year foliage obscures the view from between the main boulders, so photographs were taken from a position on top of Boulder B. At 20:17 on 24 June 2003[6], the sun appeared to touch the summit of Harrison Stickle creating a spectacular 'starburst' effect (**Figure 8-22**). It then moved slowly down the side of the mountain before setting behind Pavey Ark at 20:30. The passage of the sun as seen from the carved rocks bore a striking resemblance to that reported from the Boheh Stone where the sun sets over Croagh Patrick. Could this site have been used to accurately measure the solstice, as the sun rolled down the flank of Harrison Stickle? Observations at other positions along the valley suggest that Copt Howe provides the optimal view of this phenomenon: closer to the mountains the angle of elevation becomes too great and further away the sun appears to set behind the flat curve of Pavey Ark to the north.

Possible associations between rock art and celestial bodies are well documented, the circular nature of many motifs inviting comparisons with suns, moon, planets and constellations (see for example (Brennan 1980: 189-190). The panel at Copt Howe includes the most elaborate concentric circle motif

[6] Observations between June 21 and June 23 were made impossible by poor weather. Recording was repeated on June 22 2005.

in Britain with at least eleven rings. The motif next to this is also unusual: a chevron formed from three parallel lines, the upper line curved at the apex rather than pointed, with a line joining the vertices. When this grouping is superimposed over a silhouette of the mountains (as seen from the site) an interesting relationship is suggested[7] with the chevron representing Harrison Stickle and concentric ring motif in the position of the sun (**Figure 8-25**), however the selection and positioning and scale of the motif is extremely subjective and if moved a little to the left, the concentric rings can instead be associated with the mountain. Others have posited that the concentric rings represent the position of the surrounding mountains with the parallel lines indicating a track through the valley (**Figure 8-26**; web ref #14). The presence of representational art notwithstanding, these observations suggest an interesting aspect of the site which might be explored further with more accurate measurements and calculations to take into account the effect of solar precession.



Figure 8-22: Starburst sun over Harrison Stickle on June 22 2005 as viewed from the top of Boulder B.

[7] If the analogy is extended, the line joining the vertices of the chevrons may represent the Dungeon Ghyll with its striking waterfalls.

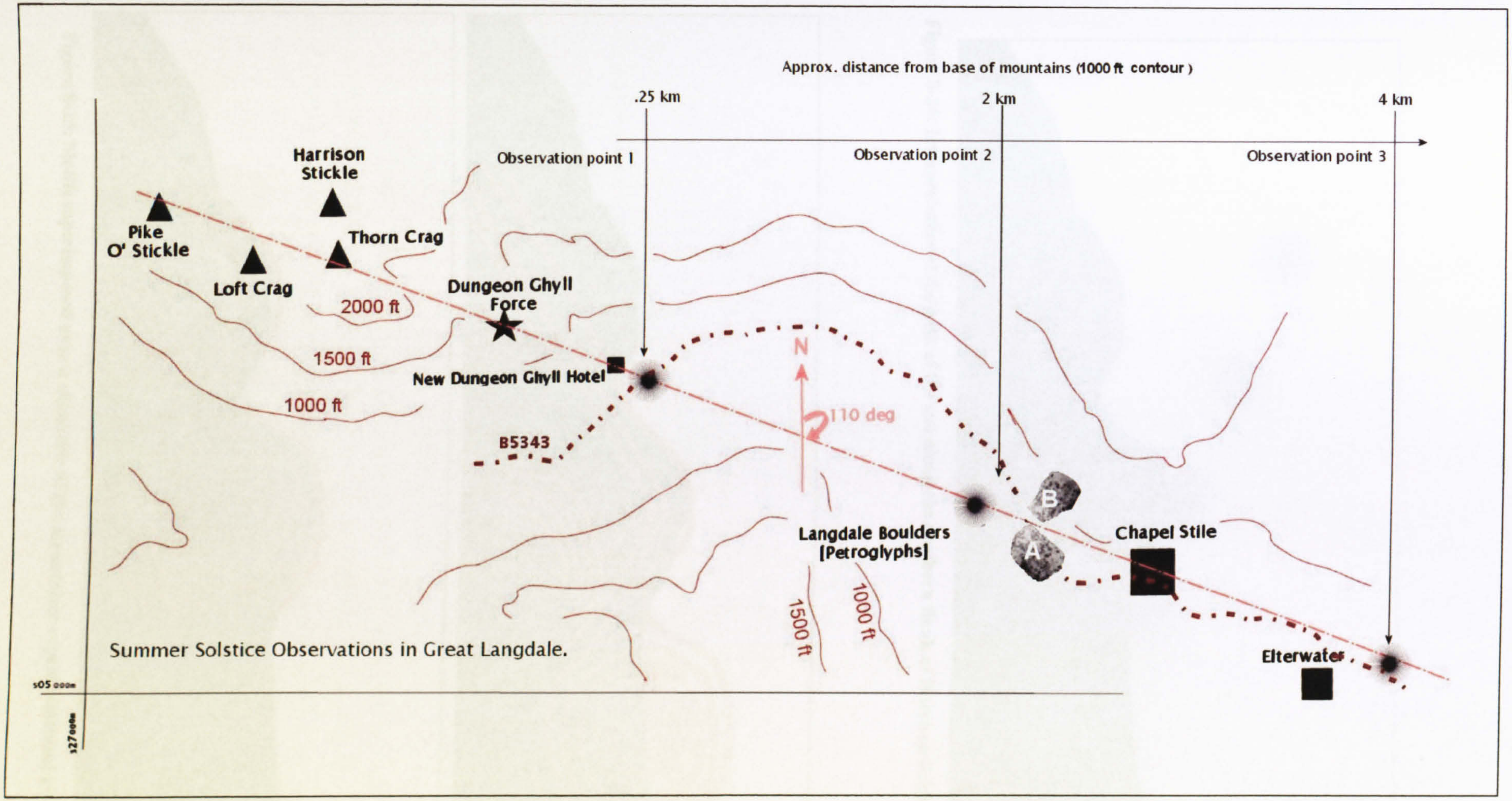


Figure 8-23: Solstice observations, June 22 2005.

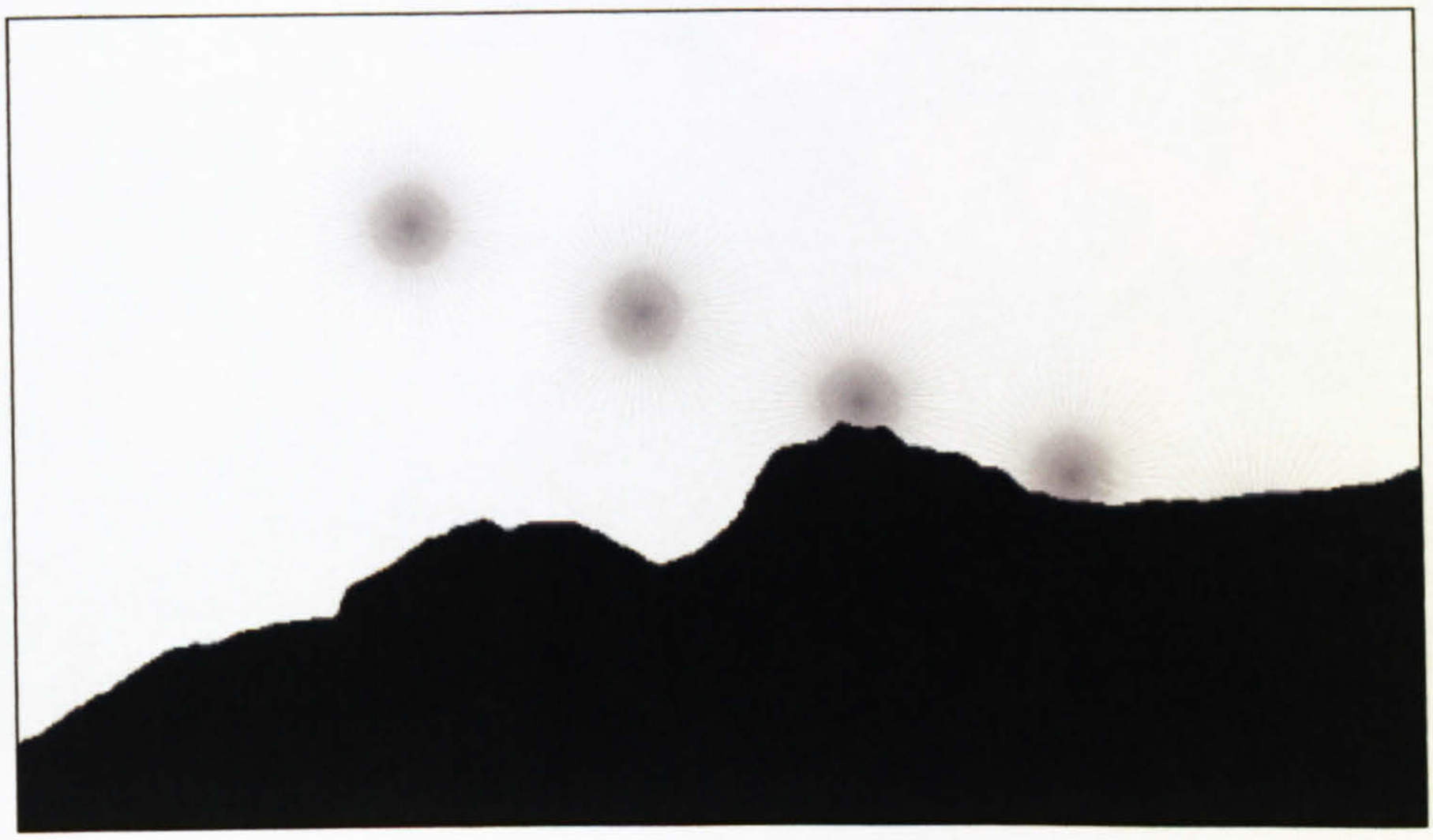


Figure 8-24: Interpretation of the path of the sun along the northern flank of Harrison Stickle.

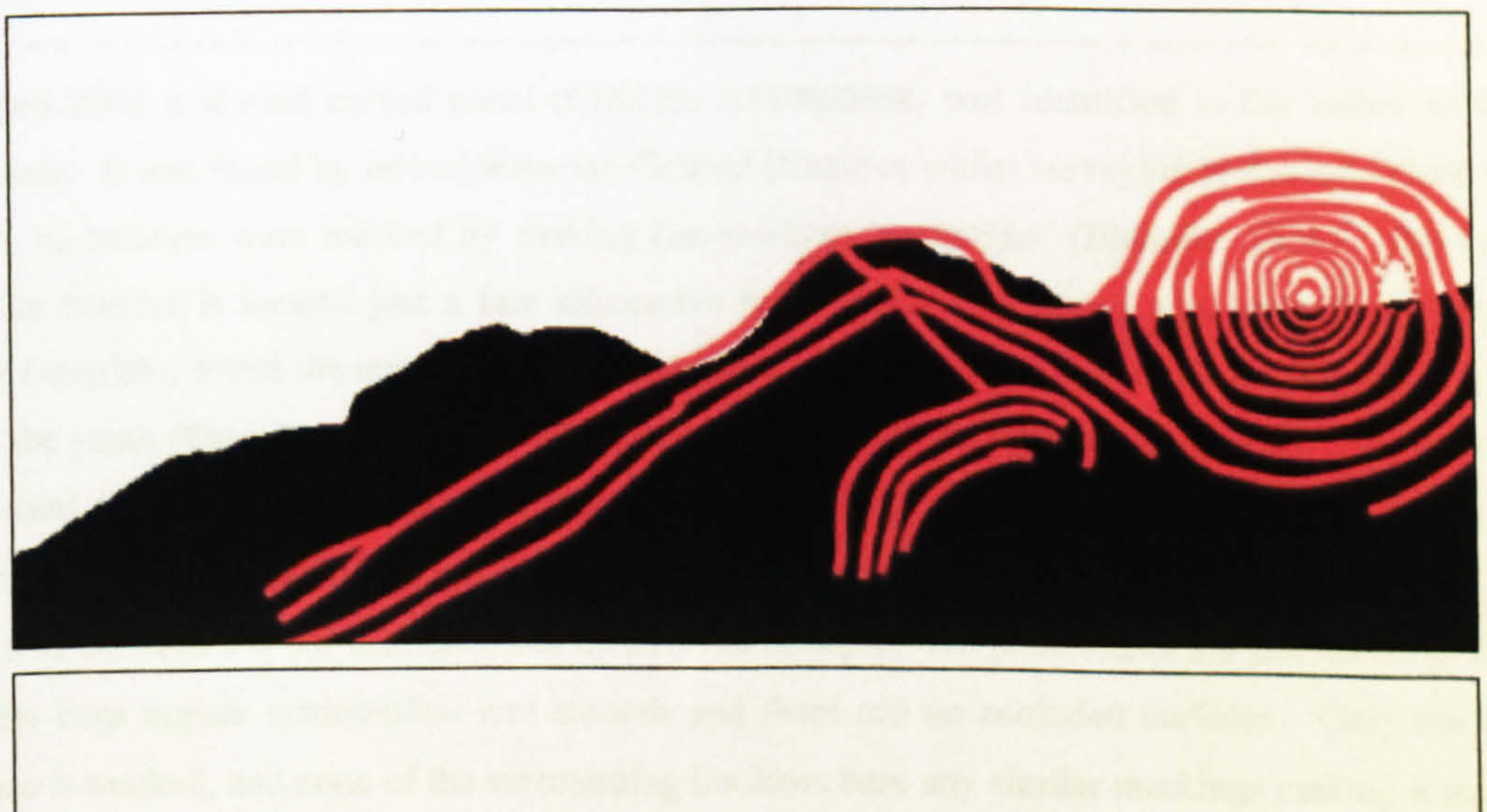


Figure 8-25: Motifs superimposed over a silhouette of the mountains: representational art?

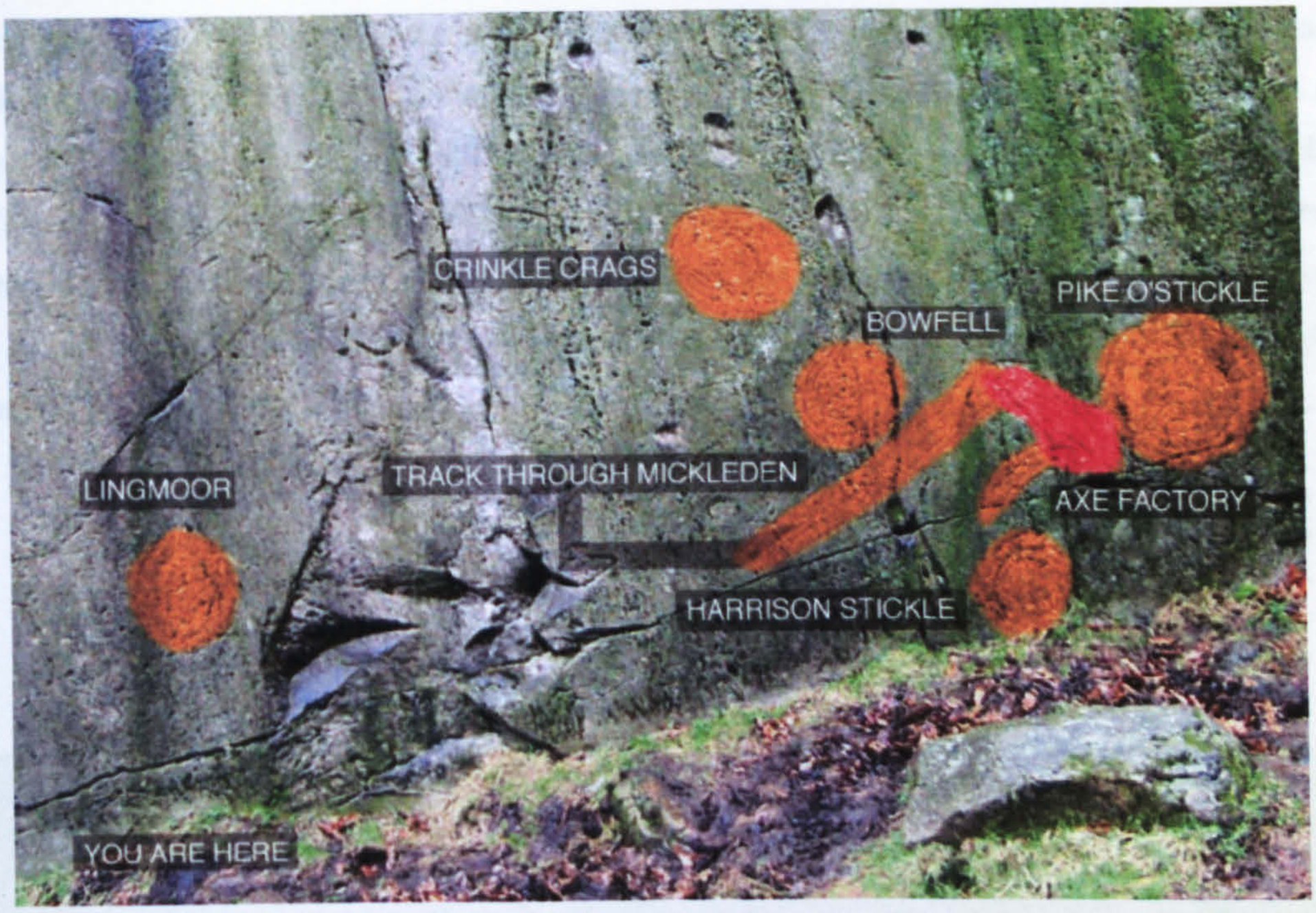


Figure 8-26: 'Map' interpretation of the Copt Howe carvings by 'Iron Man' (web ref #14).

8.4 Post Script: A new discovery and route-ways in Great Langdale

In April 2006 a second carved panel (**CU0095; NY28650558**) was identified in the valley of Great Langdale. It was found by retired historian Gabriel Blamires whilst surveying prehistoric route-ways which he believes were marked by striking (un-worked) 'megaliths' (Blamires 2006). The carved rhyolite boulder is located just a few kilometres west of the Copt Howe site, towards the head of Great Langdale, where the upper valley of Mickledon is joined by Oxendale and the Blea Tarn Valley from the south (**Figure 8-28**). The boulder lies within a small larch plantation (**Figure 8-28**) close to a well-used footpath which leads from the valley bottom up the lower slopes of Side Pike on the southern side of the valley. It has a flat, slightly sloping upper surface which is covered with cup-marks of between 3-5 cm diameter, and up to 3 cm in depth. No peck marks are immediately visible but the cups appear symmetrical and smooth and there are no occluded surfaces. Only the upper surface is marked, and none of the surrounding boulders bare any similar markings making it unlikely that these are natural, geologically formed cupules. The surface features were captured by both wax rubbing and tracing, and the resulting recordings used to produce a scaled plan of the surface (**Figure 8-29**).

The carved boulder is at first glance very different to the Copt Howe panels, being much smaller, and decorated with simple cup-marks on its upper, near-horizontal surface. In many ways it more closely resembles the outcrops described in the previous chapter, being in a similar position in the landscape, just above the valley floor at around 115 m OD, at the foot of a pass, and with a view of a significant mountain, and indeed, the panel at Grasmere lies only 5km away in an adjacent valley. It does,

however, have two major differences to the panels in Chapter 7: it is a boulder rather than an outcrop, and it has no association with a major lake[8]. This distinction is not intended to imply such categorisations were important in the Neolithic, but for these reasons, together with its proximity to the Copt Howe site and to the axe quarries, the site is included in the present rather than the previous chapter. Given that this second Langdale site is, like Copt Howe, located on a natural route to and from the axe quarries, it adds a further dimension to the discussion: that of movement through the landscape, as discussed in Chapter 7.

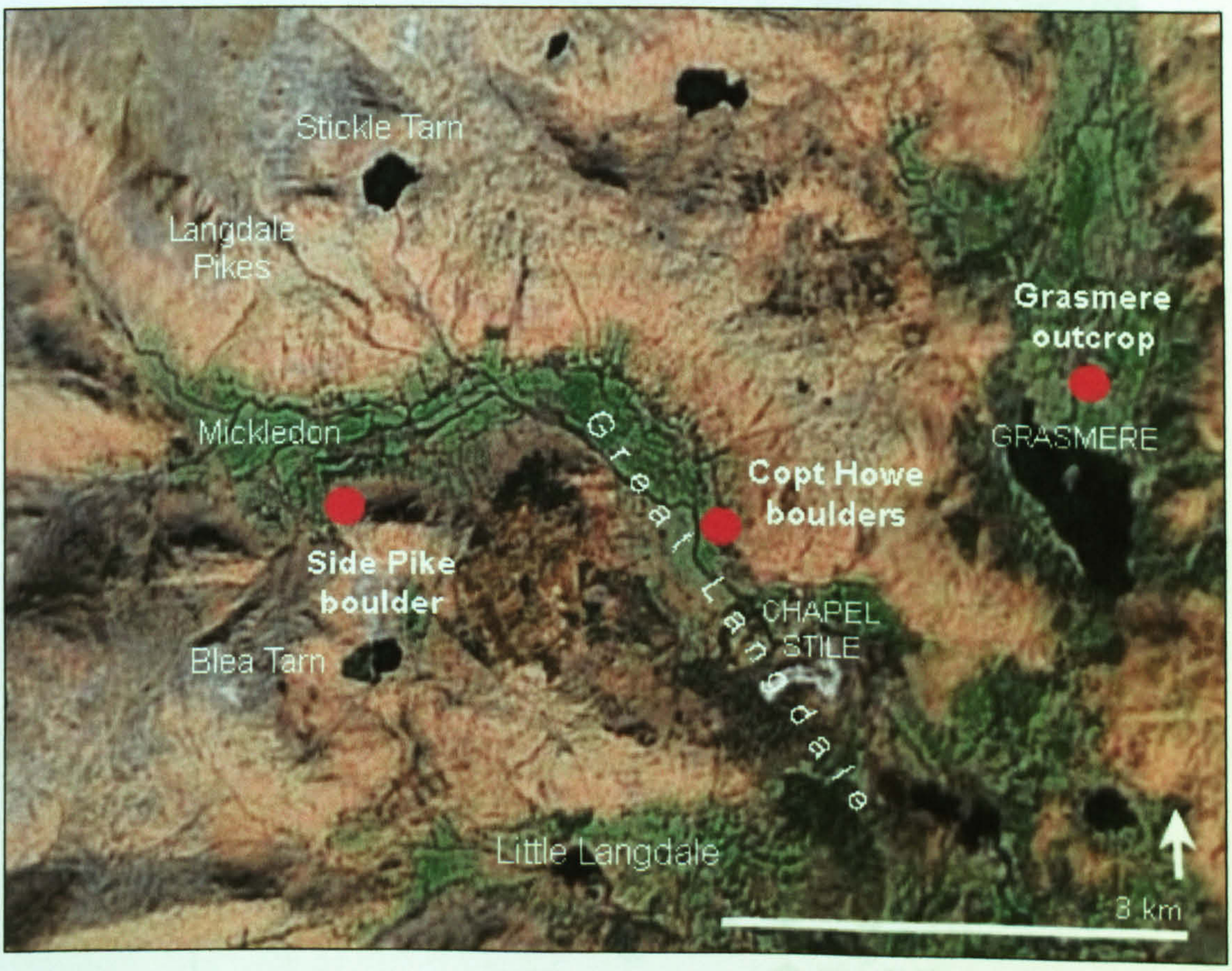


Figure 8-27: Map showing rock art sites in Langdale in relation to the Langdale Pikes. The carved outcrop at Grasmere lies in the next valley. Aerial photograph from Google Earth.

[8] Evidence suggests that Great Langdale did once hold a lake, but this was filled with sediment long before the period under discussion; the nearest body of water is the 200 m wide Blea Tarn.

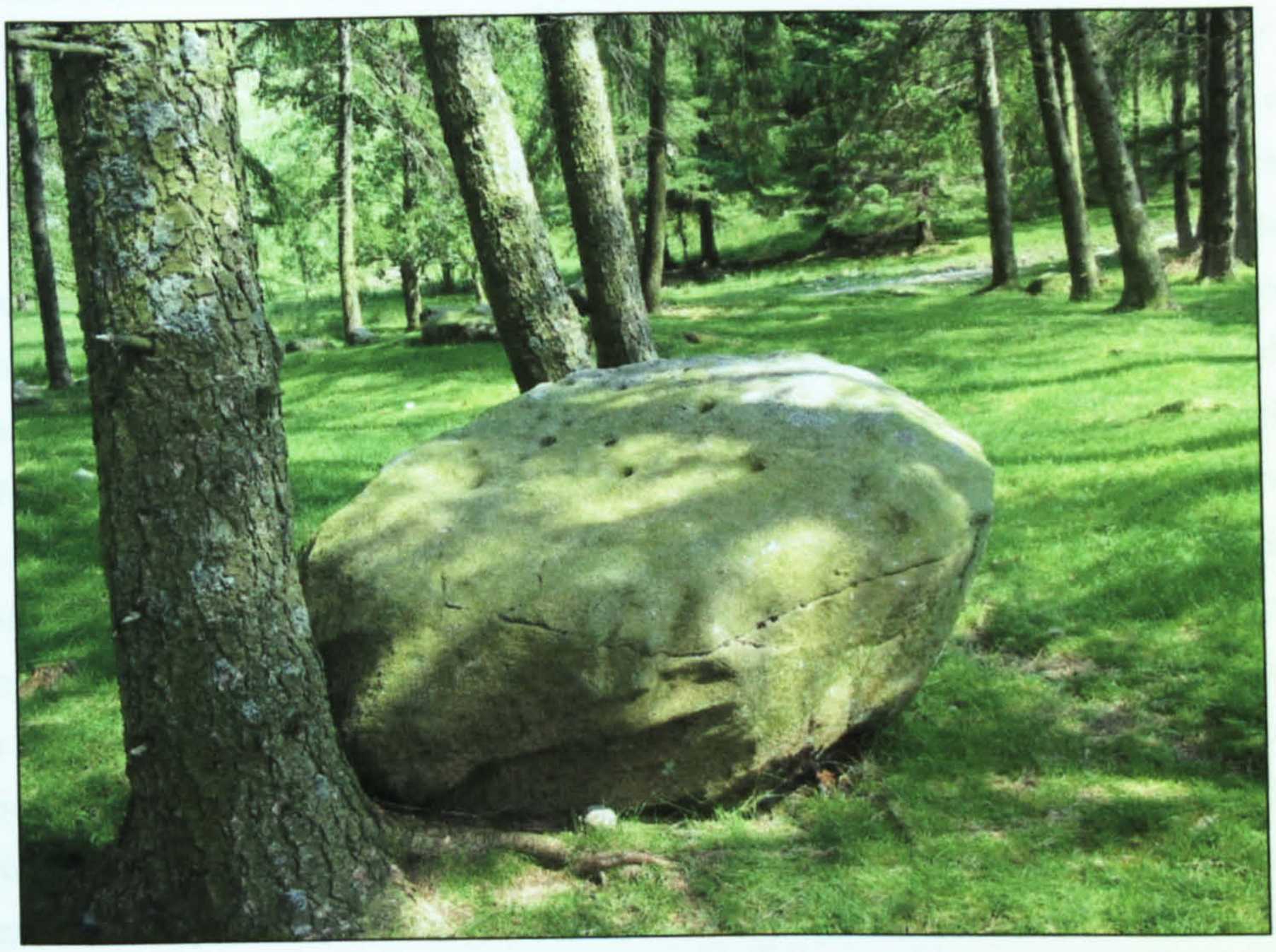


Figure 8-28: Location of Side Pike carved boulder within larch plantation. The footpath can be seen in the background.

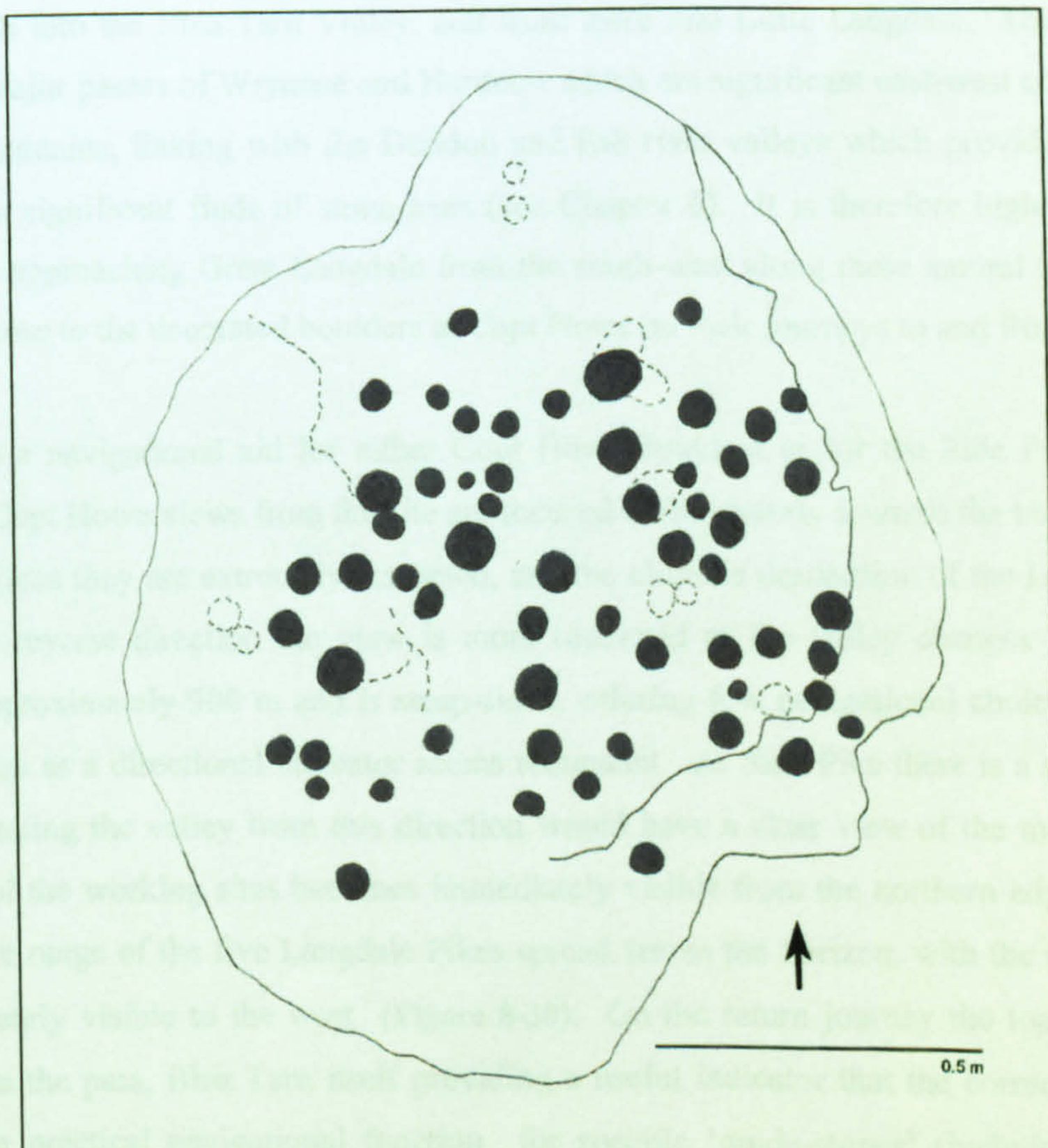


Figure 8-29: Plan view of the boulder with cup-marks. Drawing based on both wax-rubbing and tracings recorded during the project.

8.4.1 Route-ways in Great Langdale

As discussed in the previous chapter, rock art is often assigned a role similar to that of natural landmarks, identifying significant sites at locations requiring navigational choices (see for example (Bradley 1997: 79-89). Although prehistoric route-ways are difficult to demonstrate, as shown in Chapter 7 the exaggerated topography of the Cumbrian massif permits a degree of informed conjecture regarding possible route-ways through the landscape. Assuming a preference for 'least-cost' paths, movement is impeded by mountain ranges whilst the radial arrangement of glacial valleys links the central fells with the surrounding lowlands, facilitating travel and aiding navigation. So could the carved boulders at Copt Howe and Side Pike be related to movement through the valley of Great Langdale? In Chapter 7 it was noted that the distribution of worked stone originating from Langdale has been used to suggest possible route-ways used by quarry workers (Plint 1962: 19-20). One postulated route leads from the quarries, down the valley to the head of Lake Windermere **(Figure 8-21)** where axes could be transported either via the lake or along the shore, south to coastal communities, accounting for high concentrations of finds around the Furness peninsular. This route also provides access to the north (via Grasmere and Thirlmere) and east towards the Eden Valley and the Pennines. Many other routes radiate in all directions over the fells at the head of the valley, so Great Langdale may have been just one of several different approaches to the quarries. One obvious natural pass is followed by the present minor road, which leaves the south side of the valley via a col between Side Pike and Wrynose Fell. It is at the foot of this pass that the Side Pike boulder is found. The route leads into the Blea Tarn Valley, and from there into Little Langdale. This, in turn gives access to the major passes of Wrynose and Hardnott which are significant east-west corridors through the central mountains, linking with the Duddon and Esk river valleys which provide links with the coast and with significant finds of stone axes (see Chapter 6). It is therefore highly probable that stone-workers approaching Great Langdale from the south-west along these natural highways would have passed close to the decorated boulders at Copt Howe on their journeys to and from the quarries.

A function as a navigational aid for either Copt Howe boulders or for the Side Pike panel seems unlikely. At Copt Howe views from the site are focused north-easterly towards the head of the valley; in other directions they are extremely restricted, and the ultimate destination of the Langdale Pikes is clear. In the reverse direction the view is more restricted as the valley changes direction, but it narrows to approximately 500 m and is steep-sided, offering few navigational choices so that a role for the carvings as a directional indicator seems redundant. At Side Pike there is a similar situation. Travellers entering the valley from this direction would have a clear view of the mountains, indeed the location of the working sites becomes immediately visible from the northern edge of the saddle, with the entire range of the five Langdale Pikes spread across the horizon, with the main site at Pike 'O Stickle clearly visible to the west **(Figure 8-30)**. On the return journey the topography funnels movement via the pass, Blea Tarn itself providing a useful indicator that the correct route has been taken. Yet a practical navigational function for specific 'guide-stones' (included those at Copt Howe) is proposed by Blamires (2006). In his publication on prehistoric route-ways in the valley in which he argues that un-worked boulders with naturally 'pointed' shapes are directional indicators

which he argues that un-worked boulders with naturally 'pointed' shapes are directional indicators located at significant route junctions along the valley (**Figure 8-31**). Observations in the field did identify additional 'pointed' stones along the route projected by Blamires, including one which appears to reference the mountains, but more extensive survey would be required to confirm the guide-stone hypothesis. A purely navigational function seems superfluous in Great Langdale for the reasons given above; a more persuasive proposition would perhaps be the existence of marked ceremonial path-ways or an extended processional route ritual through the valley such as that suggested to approach the Neolithic stone quarries at Graig Llwyd in North Wales (Price 2004). Yet the only stones so far demonstrated to have been subject to human intervention are those at Copt Howe and Side Pike.



Figure 8-30: View of the Langdale Pikes from in front of the carved boulder (outside of the Larch plantation). Stickle Pike (site of main axe quarry is the rounded peak furthest left.

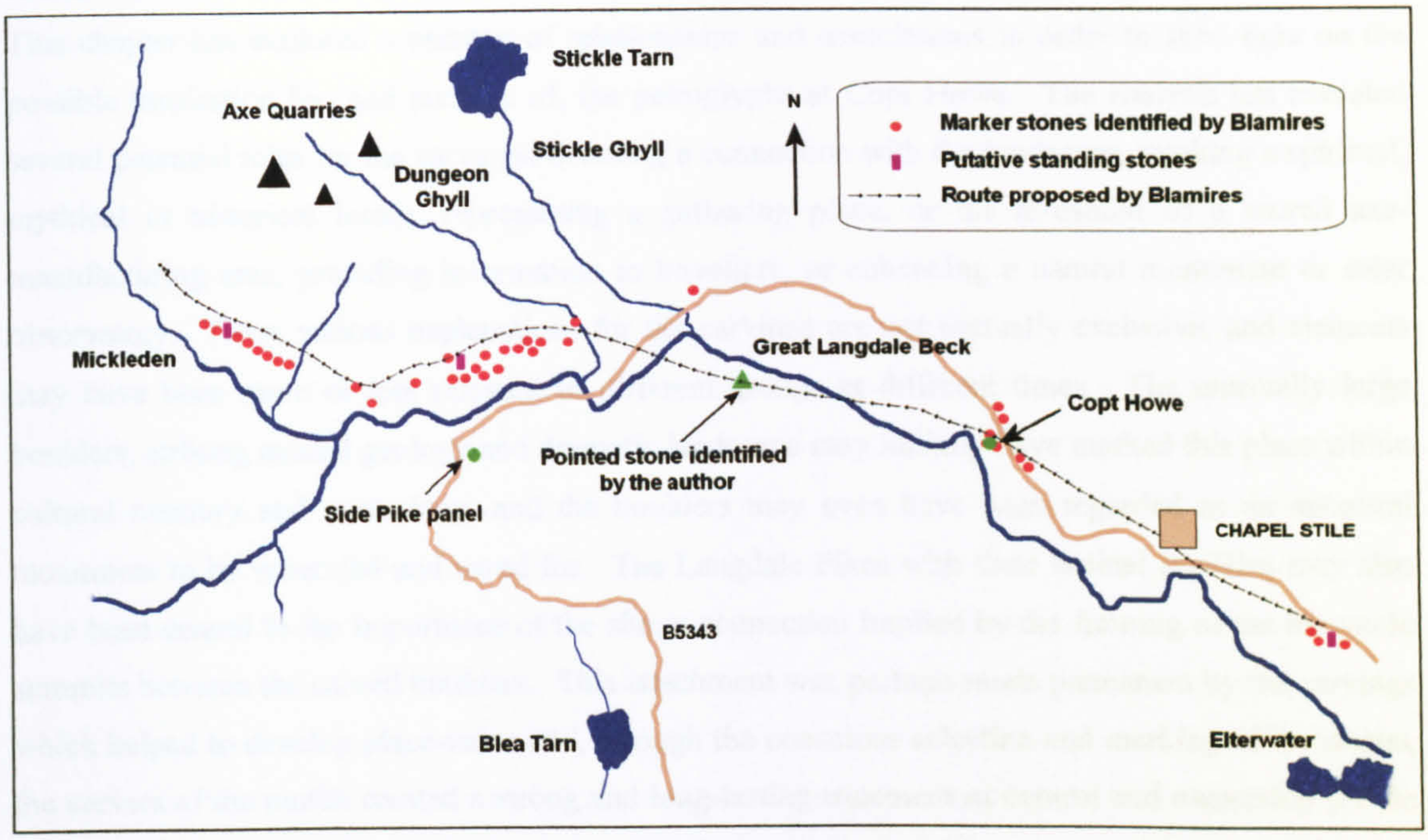


Figure 8-31: Prehistoric route-way in Great Langdale after Blamires (2006) showing the position of the decorated stones and putative 'guide' stones.

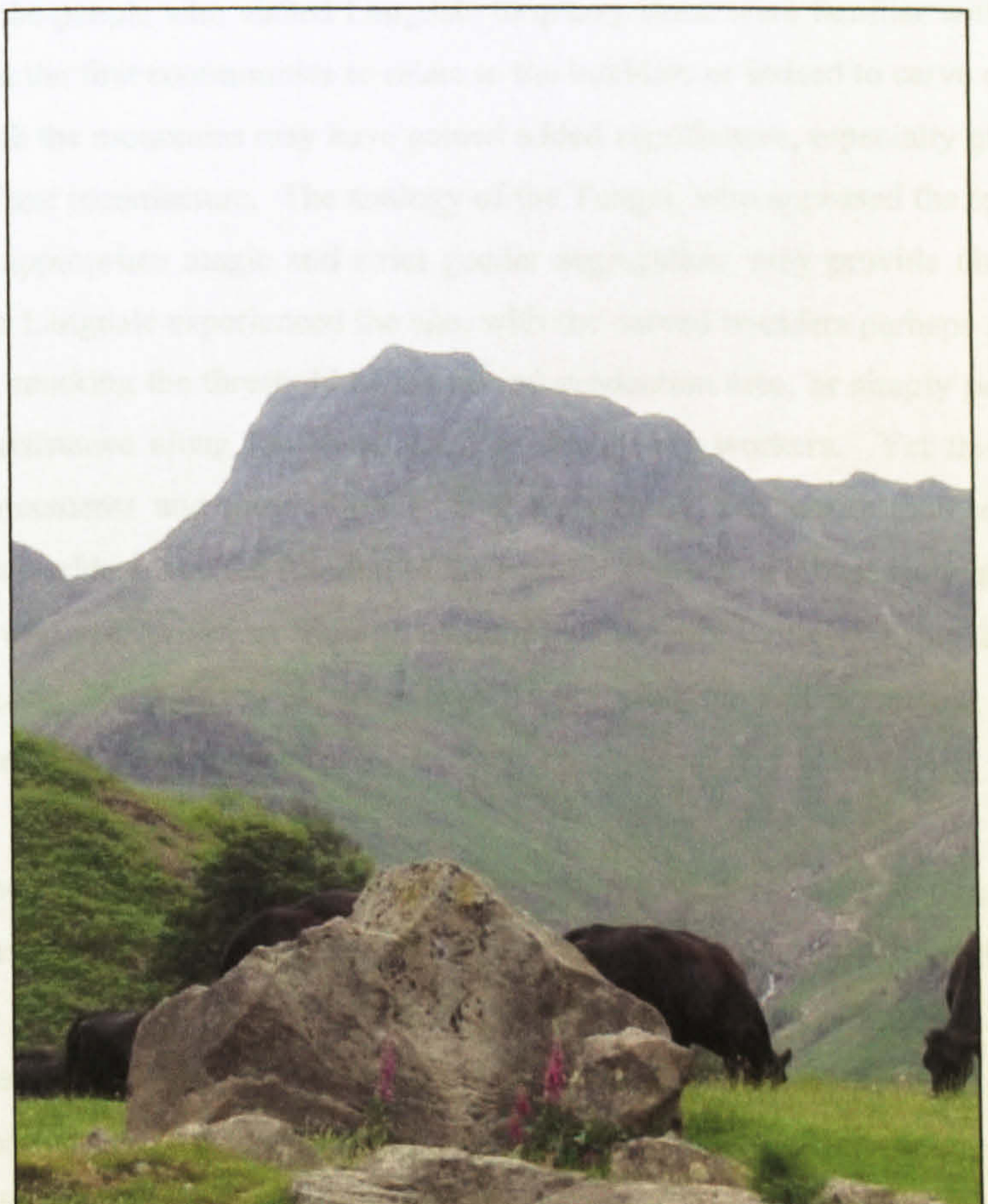


Figure 8-32: Pointed stone found by the author on route-way proposed by Blamires (2006). Note how the boulder echoes the shape of the mountain.

Summary and Conclusions:

This chapter has explored a number of relationships and associations in order to shed light on the possible inspiration for, and purpose of, the petroglyphs at Copt Howe. The analysis has revealed several potential roles for the carvings: denoting a connection with the landscape, marking a spiritual, mythical or historical locale, representing a gathering place, or the threshold of a sacred axe-manufacturing area, providing information to travellers, or enhancing a natural monument or solar observatory. These various explanations for the carvings are not mutually exclusive, and elements may have been more or less relevant to different groups at different times. The unusually large boulders, striking natural geology and dramatic landscape may initially have marked this place within cultural memory and mythology, and the boulders may even have been regarded as an ancestral monument to be venerated and cared for. The Langdale Pikes with their liminal qualities may also have been central to the importance of the site, a connection implied by the framing of the mountain summits between the carved boulders. This attachment was perhaps made permanent by the carvings which helped to develop place-value and, through the conscious selection and marking of the stones, the carvers of the motifs created a strong and long-lasting statement of control and ownership for the community and its descendents.

The presence of the axe factories and the situation of the carved boulders on a route-way to the quarry sites suggest that the people who visited Langdale to quarry stone were familiar with the site. These may not have been the first communities to relate to the boulders or indeed to carve on the stones, but the connection with the mountains may have gained added significance, especially given the potential ritual elements of axe manufacture. The analogy of the Tungei, who appeased the spiritual guardians of the rock with appropriate magic and strict gender segregation, may provide clues to how stone working groups in Langdale experienced the site, with the carved boulders perhaps providing a focus for ritual activity, marking the threshold of the sacred production area, or simply providing practical and/or spiritual assistance along the route used by the quarry workers. Yet there are also clear parallels with monuments and more formal ritual activity, in the motifs themselves, the natural architecture of the boulders, and the framing of the summer solstice. Perhaps some motifs were added by communities who recognised in the site elements of the stone circles being built at Swinside, Castlerigg and Long Meg, and took advantage of the position and formation of the boulders, enhancing them with appropriate motifs.

Excavation around the carved boulders could potentially provide valuable evidence to support and clarify these ideas and must be a high priority given the amount of information this has yielded at other sites such as Drumhirril (O'Connor 2003), Hunterheugh (Waddington et al. 2005) and Torbhlaran (Jones 2006). But even without more invasive studies it is clear that old categorisations are entirely inappropriate to any consideration of the Copt Howe site, which in many respects remains unique in Britain; distinctions between sacred and secular landscapes, natural and artificial monuments, and consequently between megalithic and landscape art, cannot easily be determined in Great Langdale. Perhaps these dichotomies are best viewed within a multi-dimensional space in

which the meaning of the rock art shifts according to the experience and perspective of each community or even each individual encountering and experiencing the site. Hirsch & O'Hanlon (1995: 23) describe landscape as "a series of related, if contradictory, moments" and the ideas explored here suggest the rock art had a similar complex and ambiguous role, dependent on the prevailing ideology, motivations, practical needs and identities of the individuals and groups who created and experienced it.

In Chapter 7 the possible origins of rock art were considered with cup-marks used to mark significant places in a landscape where movement was an important part of life. In the present chapter it was suggested that, although the carved boulders at Copt Howe exhibit similar characteristics to these 'landscape' sites, (in a similar low-lying position, in a glacial valley likely to have been a route-way, near a beck, and focused on a distinctive mountain horizon), many elements also recall monumental affinities. If it is assumed that the carvings were related, as is likely, to the period of activity during which the axe quarries were exploited in Langdale, this was a period when passage graves and stone circles were being constructed and decorated, and when new social and material cultures were beginning to emerge. The next chapter takes a step further in the chronological sequence, introducing the unambiguously 'monumental' or 'megalithic' art of the later Neolithic and early Bronze Age found in the Eden Valley, and the additional complexities of changing ideologies, re-deployment of carved stones, and the concept of 'rock art biographies'.



Figure 8-33: An alternative explanation for the Copt Howe carvings?
Cartoon from *The Westmorland Gazette* (Aris 1999: 19)

Chapter 9

East of Eden

Carved stones in monumental settings

With monuments as with men, position means everything.

Honoré de Balzac (1799 - 1850) *Droll Stories*, 1837

The Eden Valley on the eastern margin of Cumbria has the highest concentration of prehistoric carvings in the county, yet unlike in the areas considered in previous chapters, not a single example has been identified on either outcropping bedrock or earth-fast boulders. Rather, thirteen of the twenty panels recorded are associated with monuments and a further seven defined as 'portable', i.e. found without context, or re-used in more recent structures. This chapter is primarily concerned with the examples found in monumental contexts which should, one might expect, make investigating their function or meaning much easier, yet each monument (and each panel) is very different in character, spanning a period of more than two thousand years. In addition, the provenance of the carved stones cannot always be firmly established and we must consider not only the final position of the carvings within the monumental setting but also the possibility that they may have been appropriated from elsewhere and re-deployed perhaps several times, reflecting shifting ideologies and changing ritual practices over an extended period.

Apart from their monumental associations, the only common characteristic of this group is their geographical location in the Eden Valley, the majority being situated on the eastern bank of the river. Section 9.1 introduces the study area in both geographical and archaeological terms. The material evidence for the panels is then reviewed in Section 9.2; portable examples found without secure context, but potentially originating from monumental settings, are also described. Section 9.3 then draws upon theoretical ideas discussed in earlier chapters to situate the Eden Valley carvings within a chronological and ideological framework, both within the immediate area and in relation to the wider region.

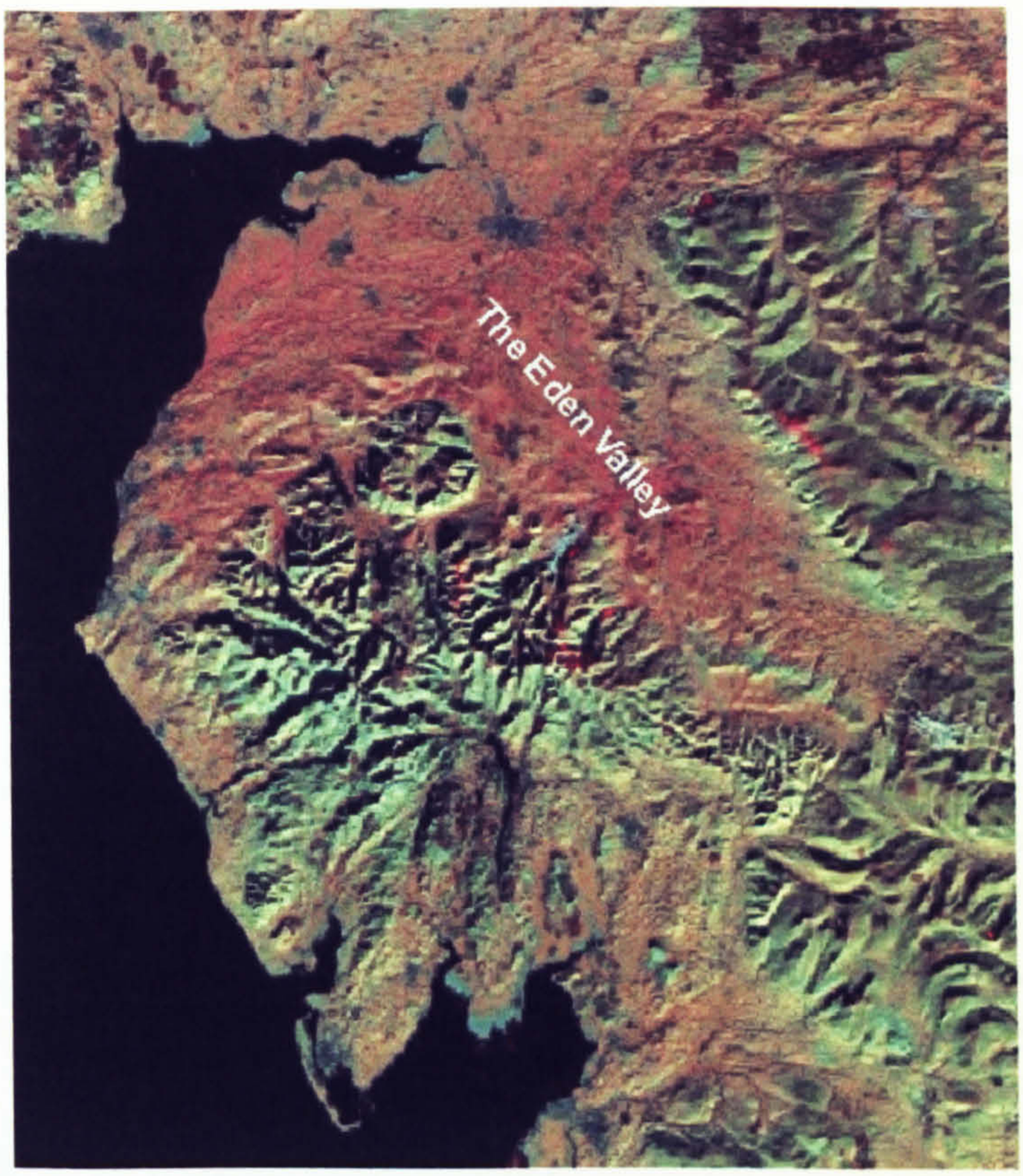


Figure 9-1: Satellite photograph showing the location of the Eden Valley.

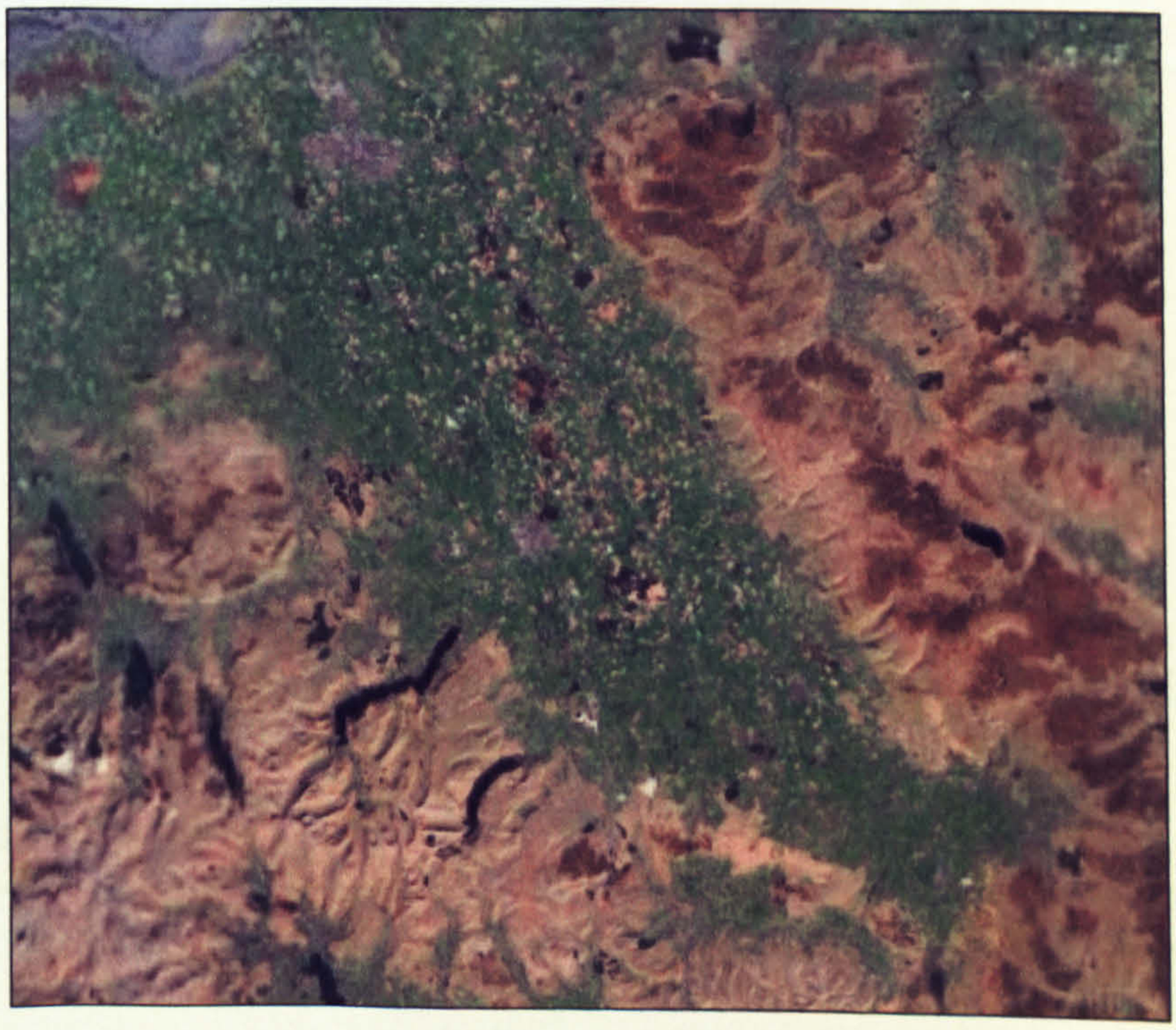


Figure 9-2: The Eden Valley (Google Earth).

9.1 The Eden Valley: setting the scene

The Eden Valley has such a distinctive character that it is categorised by English Nature and the Countryside Commission as a 'Natural Area' and 'Character Area' respectively. Both define a roughly triangular wedge of land, with the River Eden[1] rising just beyond the apex to the south-east, and flowing north-westerly through a slowly widening valley. The eastern margin is marked by the Pennine foothills; the western edge by the limestone of the Orton Fells and, beyond, the rugged Lake District mountains.

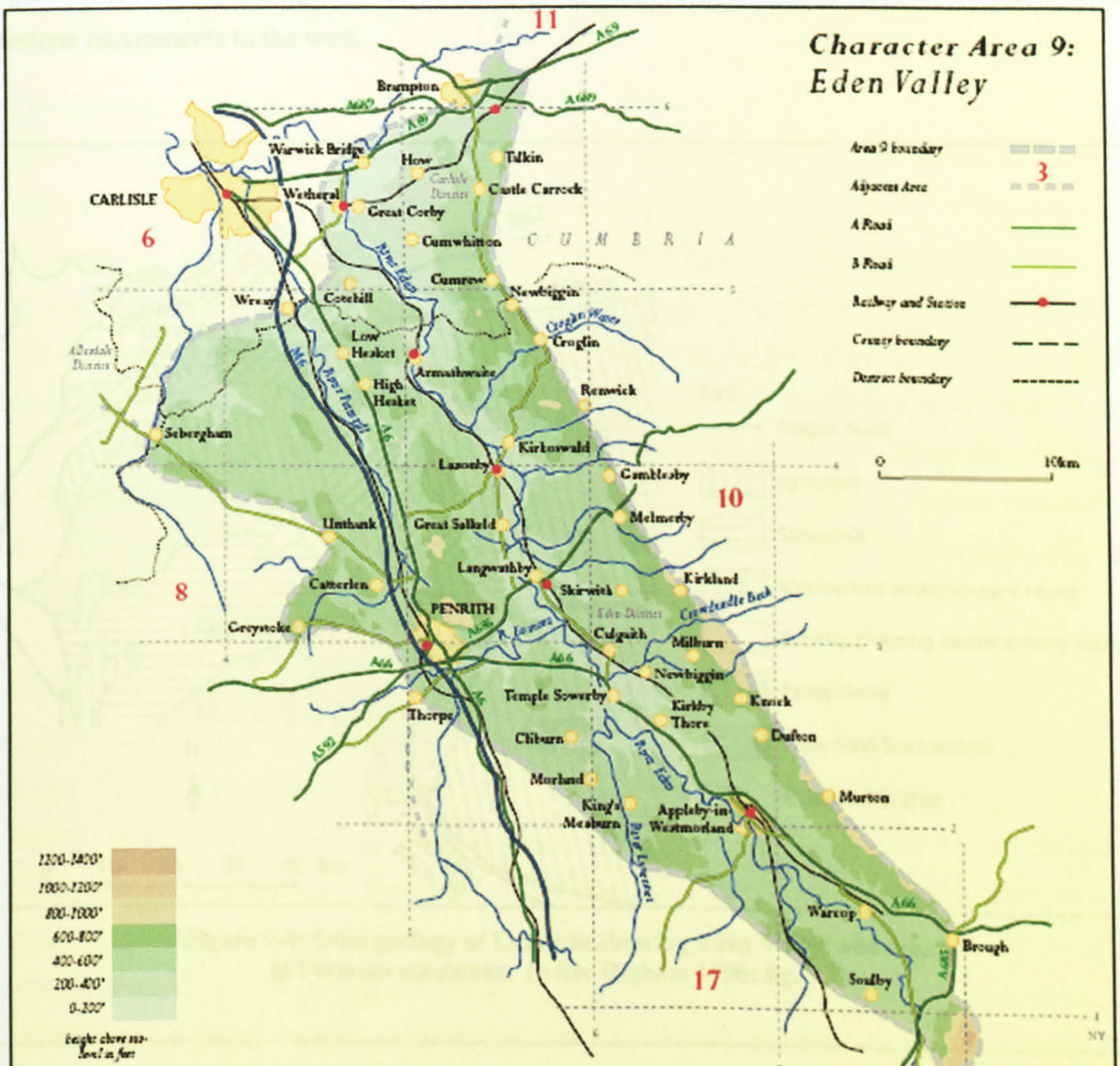


Figure 9-3: Countryside Agency map of the Eden Valley (Character Area No. 9)

[1] Eden is a Celtic river name thought to mean 'gushing and flowing with sap'.

9.1.1 Physical landscape

Today mostly enclosed, the predominantly Grade 3 agricultural land of the Vale of Eden supports mixed dairy and livestock farming, with some arable towards the north and on the more fertile soils of the river floodplain. The River Eden is joined by a number of tributaries, including the Lyvennet, and Eamont from the west, and the Croglin Water from the East. Semi-natural woodland lines the river valleys and stream sides which provide rich aquatic and wetland habitats. Geologically, the area is important for the mainly river-associated exposures of the vibrant red sandstone rocks of the Permian Age, also evident in many local buildings and field walls. The valley was formed when a massive fault uplifted the hard rocks and lowered the sandstone. Both Scottish and Lakeland ice sheets moved southwards up the valley, fashioning the drift into parallel ridge and hills, many broken into drumlins. On both sides there is a sharp contrast between the low-lying rich farming country with its woods and hedgerows, and the flanking treeless moors and open pastures of the Pennines to the east and limestone escarpments to the west.

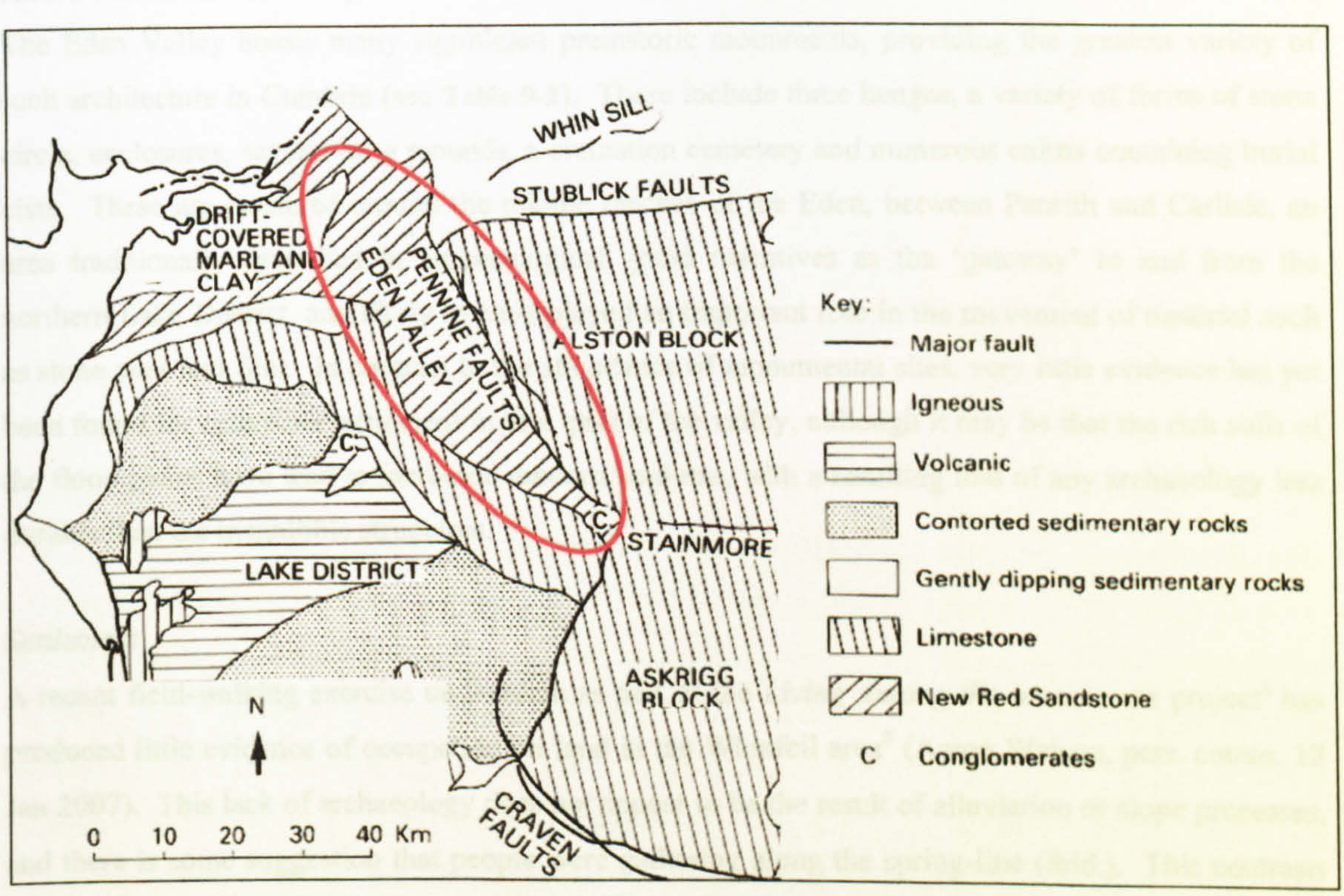


Figure 9-4: Solid geology of Cumbria showing Eden Valley and area of Permian sandstone. (After Higham 1986: fig. 1.1)

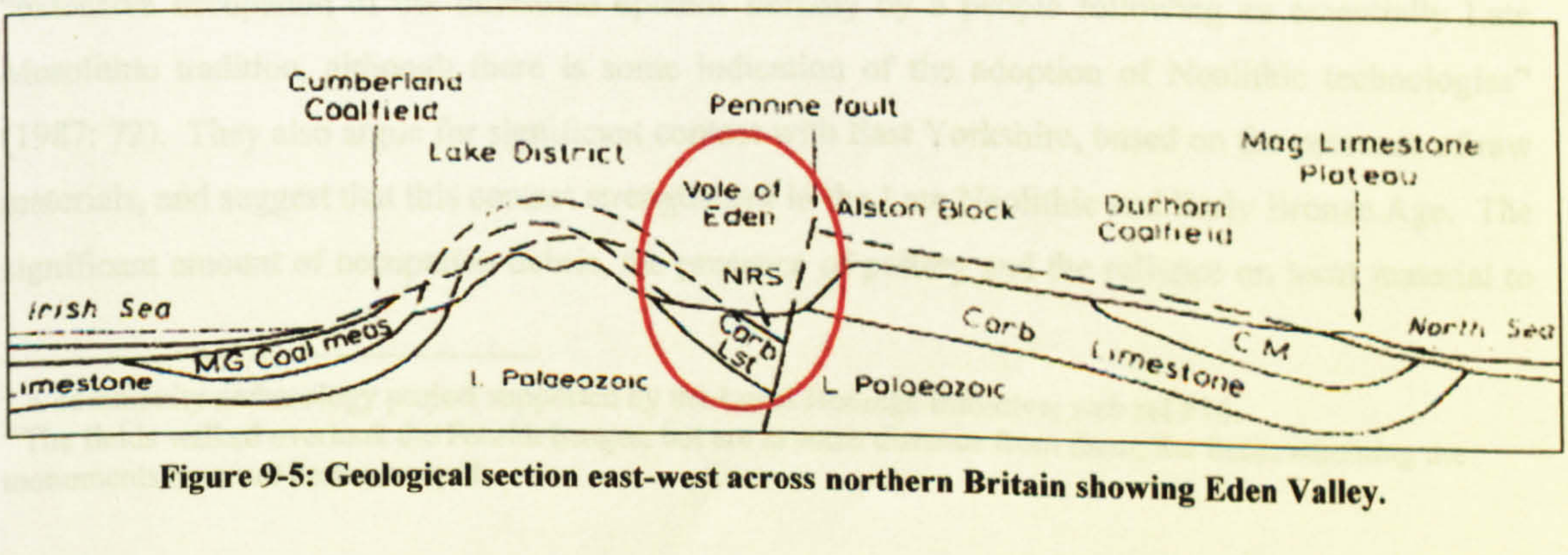


Figure 9-5: Geological section east-west across northern Britain showing Eden Valley.



Figure 9-6: Eden Lacy Viaduct, Little Salkeld. Photo: S. Ledingham.

9.1.2 Prehistoric Landscape

The Eden Valley boasts many significant prehistoric monuments, providing the greatest variety of such architecture in Cumbria (see **Table 9-2**). These include three henges, a variety of forms of stone circle, enclosures, several long mounds, a cremation cemetery and numerous cairns containing burial cists. These are clustered around the middle reaches of the Eden, between Penrith and Carlisle, an area traditionally described in archaeological grand narratives as the 'gateway' to and from the northern Lake District, and likely to have played an important role in the movement of material such as stone axes and flint. In contrast to the abundance of monumental sites, very little evidence has yet been found for extensive settlement in this part of the valley, although it may be that the rich soils of the flood plains have lead to increased modern land-use, with a resulting loss of any archaeology less durable than the megalithic structures.

Settlement

A recent field-walking exercise undertaken as part of the *Living Among the Monuments* project[2] has produced little evidence of occupation on land in the Whinfell area[3] (Aaron Watson, pers. comm. 12 Jan 2007). This lack of archaeology does not appear to be the result of alluviation or slope processes, and there is some suggestion that people were gathering along the spring-line (ibid.). This contrasts markedly with results of field-walking further upstream, where limestone escarpments flank the upper reaches of the valley. Following extensive surveys Cherry & Cherry conclude that there was "extensive occupation of the limestone uplands initially by a people following an essentially Late Mesolithic tradition, although there is some indication of the adoption of Neolithic technologies" (1987: 72). They also argue for significant contact with East Yorkshire, based on the presence of raw materials, and suggest that this contact strengthened in the Late Neolithic and Early Bronze Age. The significant amount of occupation debris, the presence of pottery and the reliance on local material to

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[2] A community archaeology project supported by the Local Heritage Initiative; web ref #16.
[3] The fields walked overlook the Penrith henges, but are at some distance from them; the fields adjoining the monuments have not been surveyed.

supplement a supply of flint all point to a series of occupations lasting several weeks if not months, and Cherry suggests the uplands were used in the summer months for hunting, pasture, and later, limited cereal cultivation. A more recent survey (Oct 2006) between Mallerstang (where the river rises) and Kirkby Stephen has revealed a high concentration of lithic material in the area where the Upper Eden Valley begins to widen (Annie Hamilton-Gibney, pers. comm. 15 Jan 2007). Assemblages indicate considerable occupation of lower parts of the valley suggesting areas of cleared land either permanently occupied since the Neolithic, or inhabited by returning hunting parties over many generations leaving signs of temporary hide and meat processing camps.



Figure 9-7: Upper reaches of the River Eden, where field-walking has produced evidence of occupation. Photo: S. Ledingham.

Monuments

Two henges remain visible as earthworks and a third is known to have been lost. These are the only such monuments in Cumbria, clustered near to Eamont Bridge at the confluence of the rivers Lowther and Eamont, just before they both join the Eden. The two extant henges have very contrasting architectures. The larger, Mayburgh, is a Class I henge consisting of a single circular bank of river cobbles, with a 3 m wide entrance to the east. The bank is up to 6.5 m high, and 50 m across with a diameter of 117 m; there is no ditch. A single monolith, 2.8 m high, stands in the centre and eighteenth century reports describe additional standing stones (Pennant 1774; Stukeley 1776: 48). The only small finds from the henge are a flint 'thumbnail' scraper, and a broken roughed-out stone axehead, both found (independently) near the entrance; a bronze axe was also discovered during ploughing. Just 350 m to the east is a very different form of henge, known as King Arthur's Round Table. Now much mutilated by roads, the irregular bank surrounds a circular ditch. An entrance to the south-east leads to a causeway across the ditch; a second, destroyed entrance to the north-west makes this a Class II henge. Two standing stones at the entrance were noted in the sixteenth century (Collingwood 1938: 2). A third henge-like monument, the Little Round Table, once existed in the vicinity. Pennant (1774) shows it lying 150 m south of King Arthur's Round Table; Stukeley (1776) describes a low circular bank surrounded by a ditch of 300 ft (90 m) diameter.



Figure 9-8: Mayburgh Henge. Photo: S. Ledingham.



Figure 9-9: King Arthur's Round Table. Photo: S. Ledingham.

A number of stone circles have been lost in this area, no doubt due to the agricultural potential of the fertile soils and need for field clearance. The only remaining example of a large, open circle (and therefore considered Neolithic) is Long Meg and Her Daughters, with 69 large boulders arranged in an oval measuring 109 m x 63 m. The carved sandstone monolith of Long Meg stands just outside one of two entrance portals. Another large circle once stood at Grey Yauds on a ridge of red sandstone between the Eden and the steep scarp of the Pennines. Nicholson and Burn (1976: 495) describe 88 "pretty large" stones of granite which formed a circle 52 yards (47.5 m) in diameter. As at Long Meg and Her Daughters a single outlier was present, standing about 5 m to the north-east. This huge block of granodiorite stone is now all that remains but, unlike Long Meg, it shows no evidence of decoration.

Smaller circles are sometimes difficult to differentiate from kerbed cairns and tend to be associated with Bronze Age burials, although the presence of funerary material is not always a good indicator of the date the cairn/circle was constructed. Extant examples are known at Little Meg and Glassonby (both with carved stones and discussed below), and at Leacet Hill 6.5 km south-east of Penrith. A major complex of Bronze Age burial cairns, stone circles, avenues and habitation sites was excavated at Broomrigg (Hodgson 1935; Hodgson 1949; Hodgson & Harper 1950; Hodgson 1952). Investigation of the smallest of four circles, Broomrigg B (seven stones; diameter 3.4 m) yielded a small sandstone cobble **(CU00036)** inscribed with a design of crossed lines but this has not been confirmed to be of prehistoric origin (see Chapter 4). Other 'vanished' circles are documented at Brougham Hall just across the River Eamont from Mayburgh Henge (described by Pennant as a circle of large grit stones 60 ft (18.2 m) in diameter around a vast cairn of round stones); and at Chapel Flat and Broadfield, both to the south of Carlisle. Another lost monument is the Old Parks burial cairn at Kirkoswald. This large cobble mound covered a cemetery which was divided by a wall of five decorated stone slabs (Ferguson 1895).



Figure 10-10: View over Long Meg and Her Daughters across the valley towards Cross Fell and the Pennines. Photo: S. Ledingham.

Several Neolithic burial cairns are known around the Eden Valley. The longest mound in the county (104 m) is located at Trainford Brow near Lowther, although Masters notes that it is "distinctly bipartite" (1984: 64). The long cairn at Raisett (Rayseat) Pike, in the south of the valley on the limestone uplands, was excavated by Greenwell (1877: 510-513) and may also be composed of two round or oval cairns joined together (Masters 1984: 61-62). The Cow Green mound (unexcavated) on the south-western edge of the Eden Valley is much shorter at 33 m (ibid. 1984: 65). Further north there are additional long cairns at Hesket, Moss Farm and Newbiggin Fell.

Examination of parch marks around the Long Meg stone circle revealed the presence of a large oval ditch adjacent to the circle with two entrances. A different type of enclosure, also believed Neolithic,

is located at Howe Robin, Crosby Ravensworth on the south-western edge of the valley. Here, a 4 m-wide stone wall encompasses c. 3-4 acres, and is surrounded by a segmented ditch. As noted in Chapter 7, similar enclosures have been identified elsewhere in Cumbria, suggesting that such structures are not confined to the south of England (Brown 2002; Horne et al. 2002; Pearson & Topping 2002).

Rock art in Eden

Given the significance of the Eden Valley as a sacred space throughout prehistory it is perhaps not surprising that here also is the greatest concentration of carved panels in Cumbria. Twenty of the forty-eight confirmed examples (over 40%) lie within the valley although this represents a relatively small part of the study area. The majority of the carvings are associated with monuments although several are classed as 'portable' since they were found without secure context or had been re-used in modern structures. All the carvings have been well-documented by previous authors and, although each was examined in the field, it was not felt necessary to re-record any during this study. Panels at Long Meg and Her Daughters which could not be detected (see Chapter 4) are not included. The following section presents a brief description of each panel.

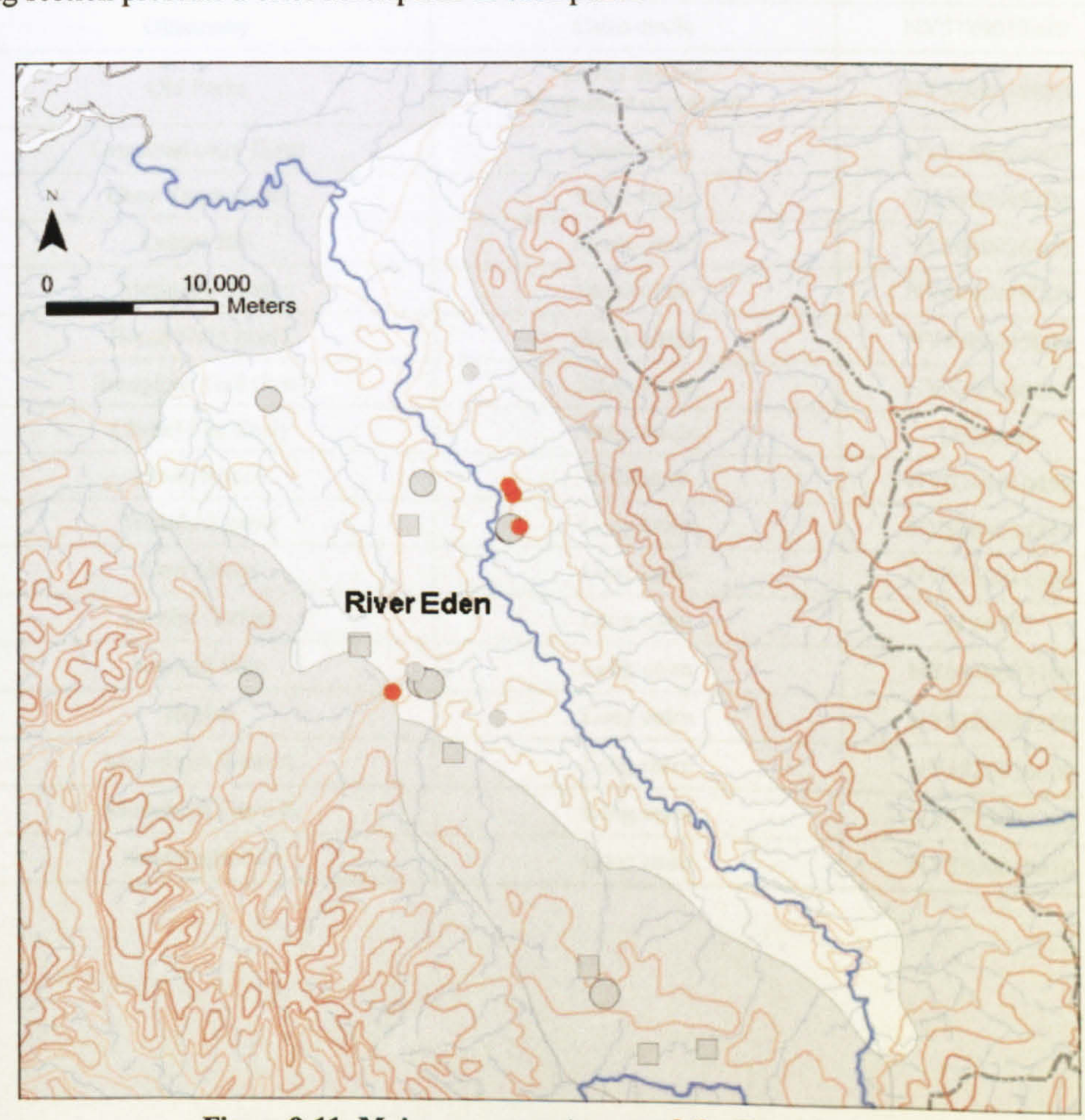


Figure 9-11: Major monuments around the Eden Valley.
Large circles = enclosures and henges; small circles = stone circles and kerbed cairns; squares = linear cairns. Red circle indicates rock art present.

Table 9-1: Major monuments in the Eden Valley. (p-m) = parch mark only; Red font = rock art present.

Monument	Type	NGR
Mayburgh Henge	Class I Henge	NY5190028400
King Arthur's Round Table	Class II Henge	NY5230028300
Little Round Table (lost)	Henge	Unknown
Broomrigg A	Stone circle	NY5480046700
Broomrigg B	Cairn circle	NY5480046600
Broomrigg C	Cairn circle	NY5480046500
Broomrigg D	Cairn circle	NY5500046600
Long Meg & Her Daughters	Stone circle	NY5693037160
Long Meg A (p-m)	Enclosure	NY5710037360
Long Meg B (p-m)	Enclosure	NY5731037250
Long Meg C (p-m)	Enclosure	NY5450048700
Long Meg E (p-m)	Linear feature	NY5654037190
Long Meg F (lost)	Stone circle	NY5685036980
Long Meg G (p-m)	Linear ditches	NY5667037430
Little Meg	Cairn circle	NY5768037470
Glassonby	Cairn circle	NY5729039340
Old Parks	Burial mound (cremation cemetery)	NY5699039880
Ormstead cairn (lost)	Cairn circle	NY5150029000
Grey Yauds (lost)	Stone circle	NY5450048700
Leacet Hill	Cairn circle	NY5630026300
Motherby (lost)	Stone circle	NY4190028200
Broad Field (lost)	Stone circle	NY4300045000
Brougham Hall (lost)	Stone circle	NY5200040000
Chapel Flat (lost)	Stone circle	Unknown
Howe Robin	Enclosure	NY6244010450
Trainford Brow	Long cairn	NY5369024310
Cow Green	Long cairn	NY6152011980
Crosby Garrett	Long cairn	NY6507
Rayseat Pike	Long cairn	NY6840007300
Hesket	Long cairn	NY5120037500
Mossthorn Farm A	Long cairn	NY4825030600
Mossthorn Farm B	Long cairn	NY4895004300
Newbiggin Fell	Long cairn	NY5800048610

9.2 Monumental art

One particular part of the Eden Valley appears to be especially significant with respect to megalithic art. A series of four monuments with carved motifs with lie along a 3 km stretch of the eastern bank of the middle reaches of the river (**Figure 9-12**). Each monument is structurally different but each has at least one carved panel in a unique context. The most southerly site and possibly the earliest chronologically, is the complex arrangement of features which includes Long Meg and Her Daughters: a large, open stone circle, the decorated standing stone, a ditched enclosure, a linear ditch, and several other smaller enclosures. Just 500 m to the north-east lies the small cairn circle of Little Meg with substantial carved kerbstones and cist slabs, and 2 km north at Glassonby is another kerbed cairn, now stripped of its mound of river-washed cobbles. One of the thirty kerbstones is decorated, and a second, now missing, may also have been carved; cup-marked cobbles from the denuded cairn lie scattered towards the edge of the field. The final monument is another burial site at Old Parks, Kirkoswald. Now lost to road-building and ploughing, this large oval mound of cobbles was located to the north of the Glassonby cairn, on opposite side of the beck. In outward appearance it was similar to the Glassonby cairn but excavation revealed a very different interior. No kerbstones were present but the mound was divided by a 'wall' of five sandstone slabs, three of which were decorated with unusual curvilinear motifs. A cremation cemetery with thirty-two deposits was revealed on the western side of the slab wall; two cists were found to the east. One further panel with a firm monumental context is included here: a rare example of a decorated stone found *in situ*. Although not located on the east bank of the Eden, the Redhills cist slab was found only a short distance away, to the west of Penrith on the north bank of the River Eamont.

9.2.1 Long Meg (CU0013, SMR 6154, NY56933716)

Long Meg, a tapering column of red sandstone, stands 72.6 m to the south-west of the centre of a large open stone circle, the uprights of which are known as her 'Daughters'[4]. The circle is one of the largest in Britain, measuring 109 m east-west and 93 m north-south (**Figure 9-13**). Of the 69 stones remaining, 27 are still standing, and several are over 2 m tall. The true height of Long Meg herself seems elusive. In a paper given to the CWAAS in 1921, Collingwood summarises:

> "Long Meg is now 12 feet high. Camden said "15" but...this was Camden's conventional figure; when he was in doubt as to an exact statement he put down 15...Hutchinson's 18 feet I take to be a misprint for 15" (Collingwood 1923).

The confusion persists: the National Monuments Record boasts 3.65 m, whilst the County Sites and Monuments Records claims a more modest 3.4 m[5].

[4] Possible carvings on three of the 'Daughter' stones (Beckensall 2002: figs. 75 and 76) were not detected during this study (see Chapter 4) and are believed to be a product of the coarse surface texture of the stones.
[5] The additional 0.25 m may represent the difference between the 'length' of the decorated face and the true vertical height.

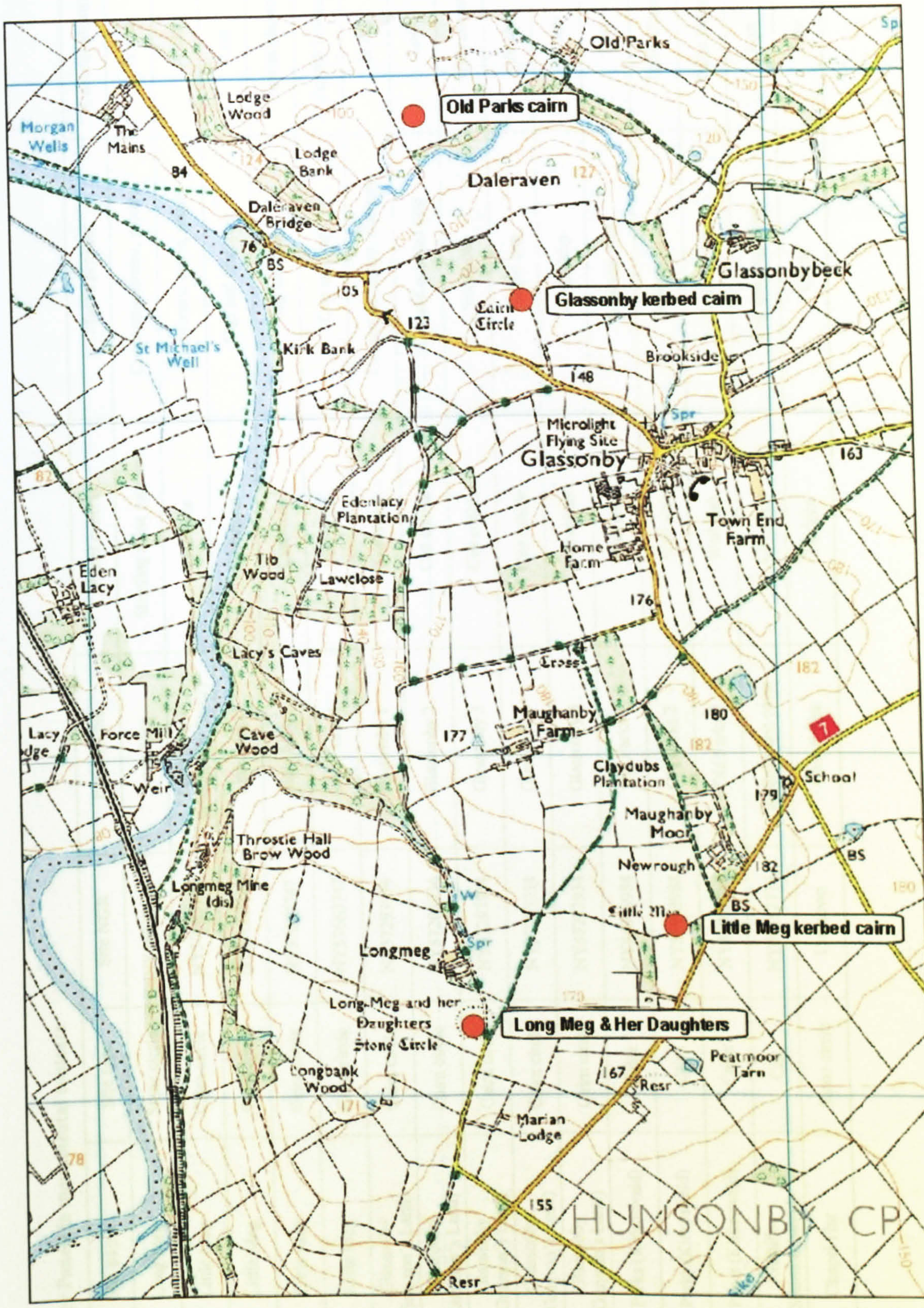


Figure 9-12: Four monumental sites with rock art to the east of the Eden.

Table 9-2: Eden Valley Panels in monumental contexts

Panel Ref	Site name	Site type	Site NGR	Panel Name	Panel context	Motifs present	Current location
CU0013	Long Meg	Stone circle	NY56933716	Long Meg	Standing stone (outlier)	Concentric circles, grooves	*In situ*
CU0023	Little Meg	Cairn circle	NY57683747	Little Meg 1 (Maughanby Stone)	Kerbstone	Concentric circle, spiral	*In situ*
CU0024	Little Meg	Cairn circle	NY57683747	Little Meg 2	Kerbstone	Cup and ring, ring	Lost
CU0025	Little Meg	Cairn circle	NY57683747	Little Meg 3	Cist stone	Cup and ring	Penrith Museum
CU0026	Little Meg	Cairn circle	NY57683747	Little Meg 4	Cist stone	Cup and ring	Penrith Museum
CU0028	Glassonby (Grayson's Land)	Cairn circle	NY57293934	Glassonby 1	Kerbstone	Concentric circles, chevrons	*In situ*
CU0029	Glassonby (Grayson's Land)	Cairn circle	NY57293934	Glassonby 2	Cist cobble	Cup and cup and ring	Lost
CU0030	Glassonby (Grayson's Land)	Cairn circle	NY57293934	Glassonby 3	Cist cobble	Single cup	With owner
CU0031	Glassonby (Grayson's Land)	Cairn circle	NY57293934	Glassonby 4	Cist cobble	Single cup	*In situ*
CU0032	Glassonby (Grayson's Land)	Cairn circle	NY57293934	Glassonby 5	Cist cobble	Single cup	*In situ*
CU0033	Old Parks (Kirkoswald)	Cairn	NY56993988	Old Parks 1	Wall slab	Grooves, arcs	Lost
CU0034	Old Parks (Kirkoswald)	Cairn	NY56993988	Old Parks 2	Wall slab	Grooves, arcs	Tullie House
CU0035	Old Parks (Kirkoswald)	Cairn	NY56993988	Old Parks 3	Wall slab	Grooves, arcs	Tullie House
CU0037	Redhills (Stainton Island)	Cist	NY50192776,	Redhills cist cover	Cist cover	Cup and rings, cups	Lost
CU0067	Chapel Flat	Stone circle	Unknown	Chapel Flat	Upright	'Circle'	Lost

The stone is roughly rectangular in section, having four 'faces', each approximately 1.0 m across at the widest part, and narrowing to approximately 0.5 m at the highest point. The lower part of the smooth, north-easterly facing panel is carved with a number of motifs including concentric circles with central cups, two left-handed spirals and various grooves (**Figure 9-14** and **Figure 9-15**). Analysis of laser recordings (Díaz-Andreu et al. 2005) suggests some of the grooves recorded by Beckensall (2002: fig. 70) may be natural fissures.

The stone circle lies approximately 1 km from the river Eden, on a broad, elevated plateau which slopes from 167 m OD at Long Meg to 160 m OD in on the north-eastern side. The circle is just one element within a significant prehistoric complex now visible only as parch marks (Soffe & Clare 1988; Clare 2006) (see **Figure 9-16**). Earthworks identified from aerial photography include a large, pear-shaped ditched enclosure with two entrances abutting the northern edge of the stone circle, and a linear ditch running for at least 1 km east-west through the southern edge. Also nearby are various smaller enclosures, one surrounding a pond, another around a single earth-fast boulder. A second, smaller circle, now lost to the plough, is recorded nearby by Stukeley (1776).

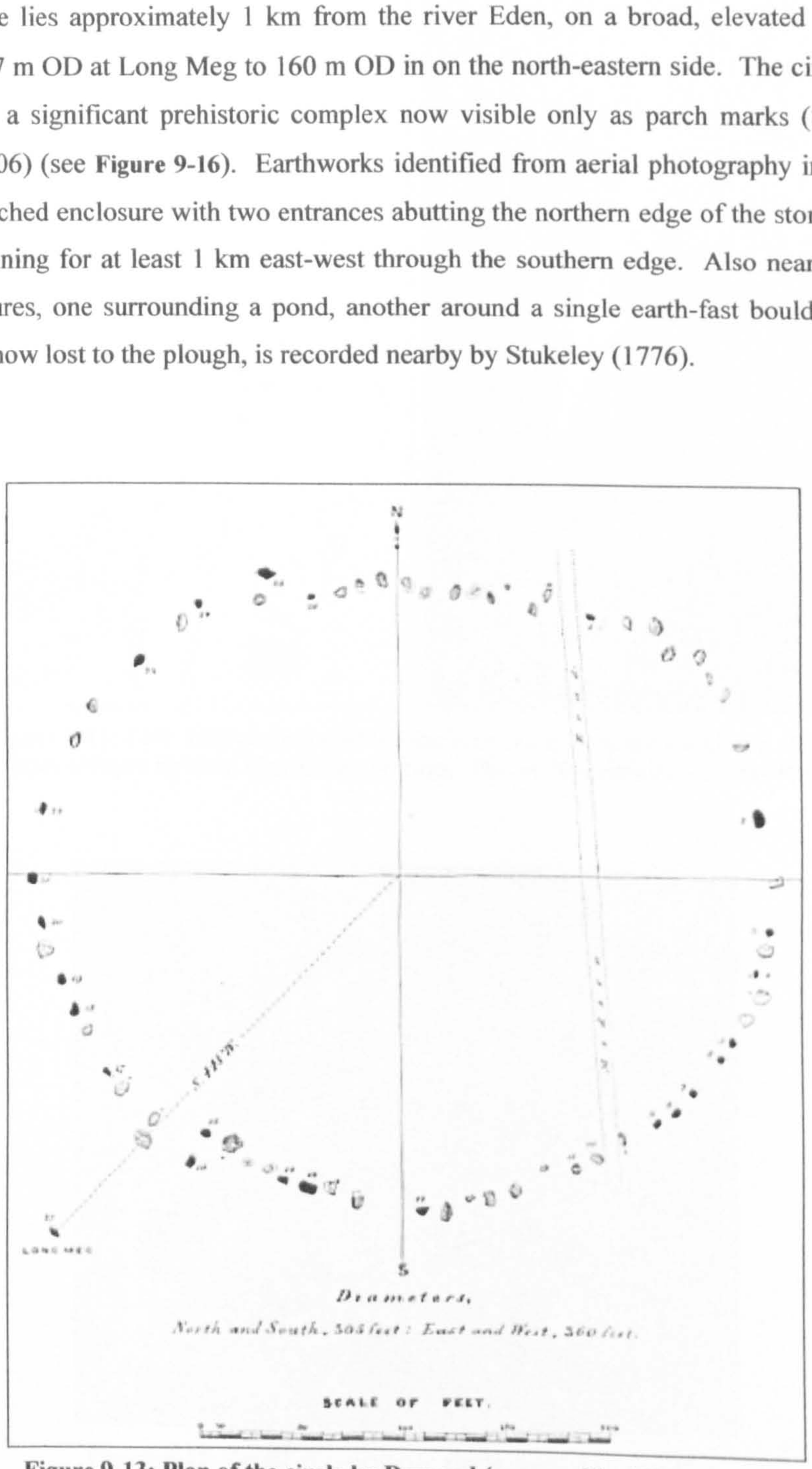


Figure 9-13: Plan of the circle by Dymond (surveyed in 1875), showing relationship between Long Meg and the central point of the circle (as defined by him). After Dymond (1881).

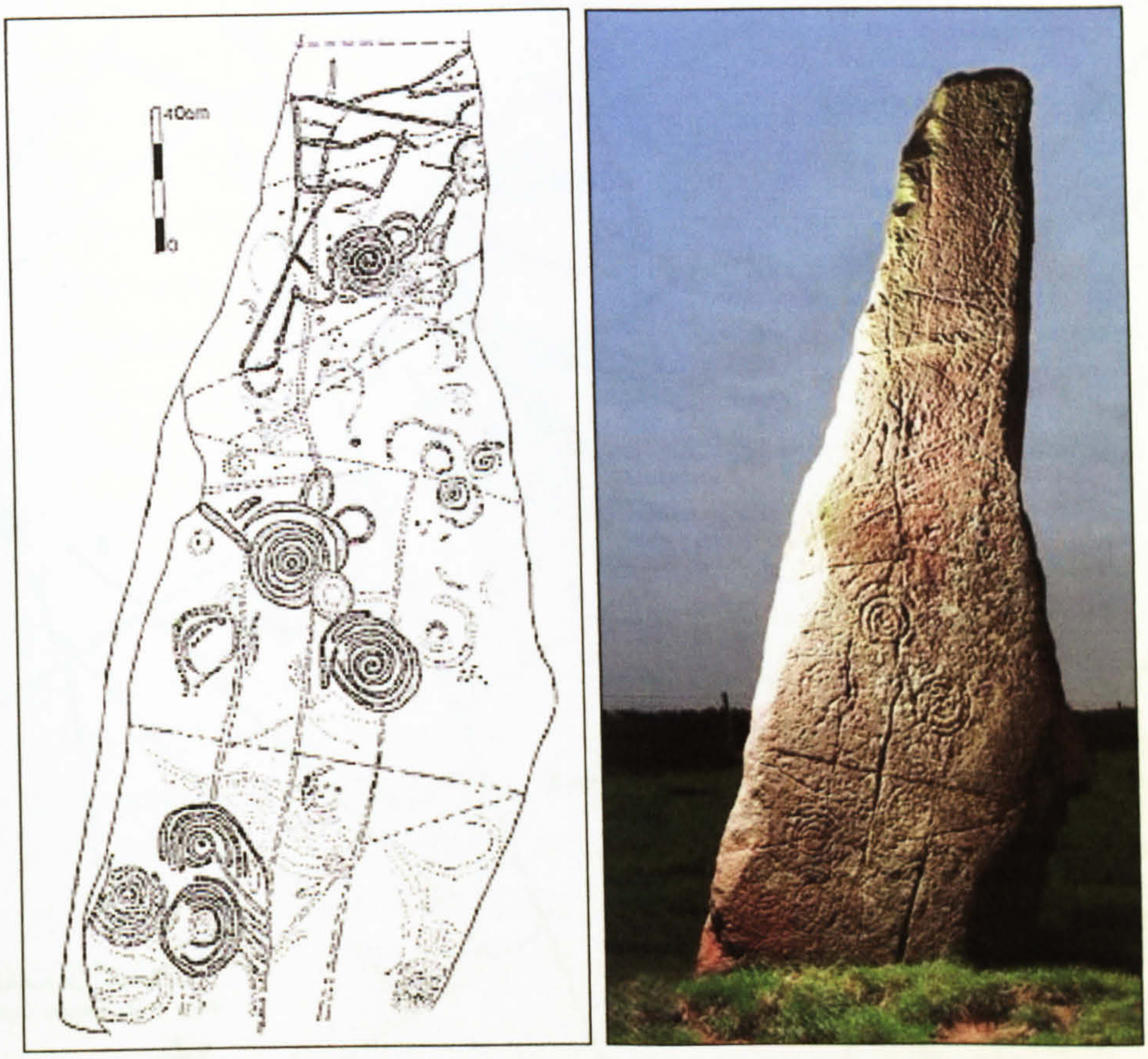


Figure 9-14: Left: interpretation of the carvings by Beckensall (2002: fig. 70); right: oblique lighting highlights carvings. Photo: Megalithics (web ref #9)



Figure 9-15: Detail of concentric circle motif on Long Meg. Photo: Alice Simpson.

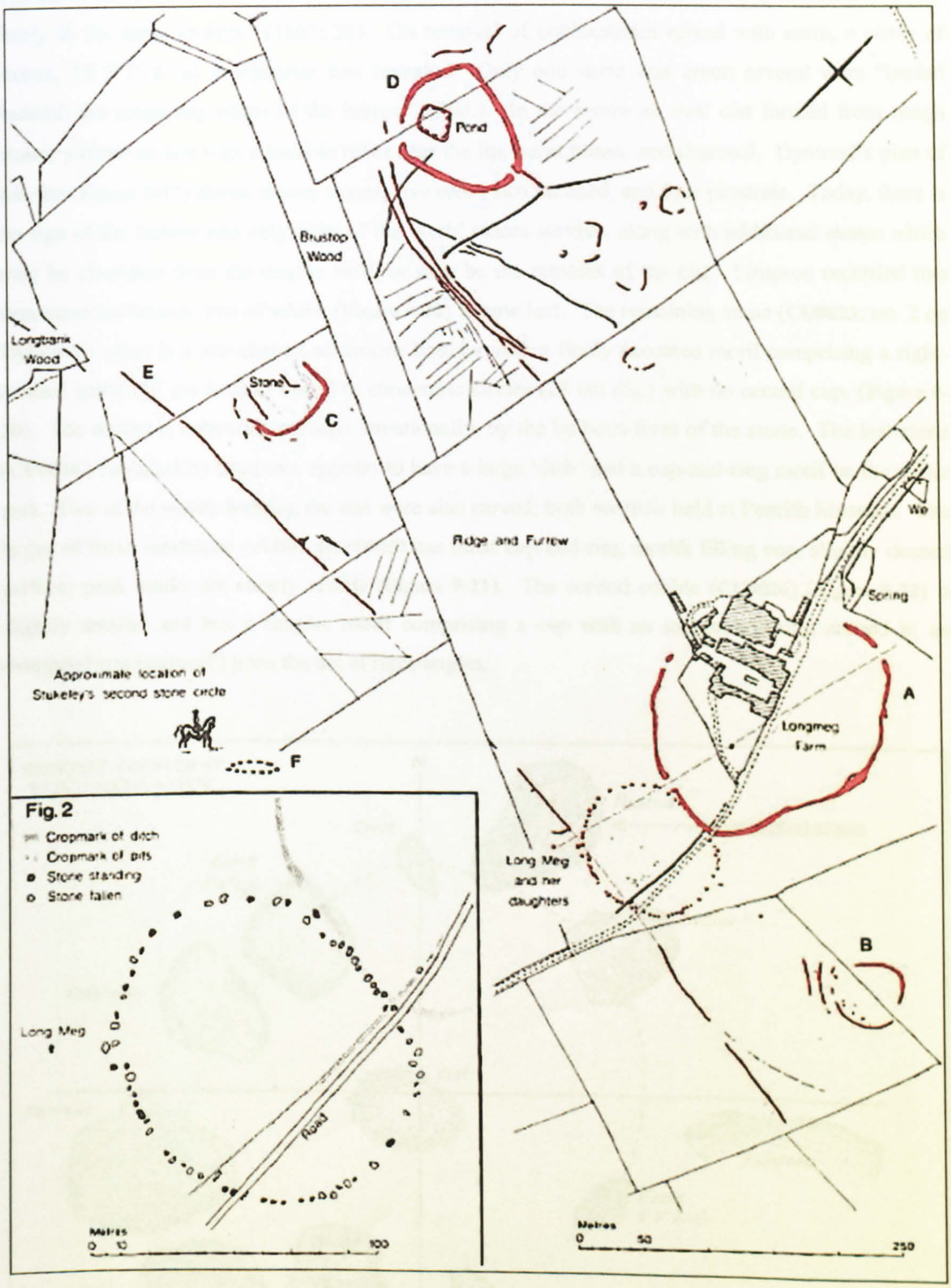


Figure 9-16: Plan of the Long Meg site showing parch marks. Potentially prehistoric features shown in red. Note also alignment of Long Meg with enclosure entrances. (After Soffe & Clare 1988: fig. 1).

9.2.2 Little Meg (Maughanby) (CU0023, 24, 25, 26, SMR 979, NY57683747)

The cairn circle of Little Meg should perhaps be included in the discussion of Long Meg, given that it is only 500 m to the north-east, but this is a very different monument with a diverse array of carvings. The cairn was excavated in 1866 by Simpson who notes that "two or three cairns or tumuli existed till lately in the same locality" (1867: 21). On removal of cobblestones mixed with earth, a circle of stones, 18 ft (5.8 m) in diameter was revealed. Only one stone was erect; several were "buried beneath the projecting edges of the barrow" (ibid.). In the centre an oval cist formed from rough stones yielded an urn with a band in relief near the lip, burnt bones, and charcoal. Dymond's plan of the site (**Figure 9-17**) shows eleven stones, five erect, two inclined, and four prostrate. Today, there is no sign of the barrow and only eight of the 'kerb' stones survive, along with additional stones which may be clearance from the nearby field, or may be the remains of the cist. Simpson recorded two decorated kerbstones, one of which (**Figure 9-18**) is now lost. The remaining stone (**CU0023**; no. 2 on Dymond's plan) is a tear-shaped whinstone boulder with a finely executed motif comprising a right-handed spiral (13 cm in dia.) linked to concentric circles (22 cm dia.) with no central cup. (**Figure 9-20**). The design is enhanced, perhaps intentionally, by the bulbous form of the stone. The lost stone (**CU0024**), recorded by Simpson, appears to have a large 'dish' and a cup-and-ring motif on the upper part. Two of the stones forming the cist were also carved; both are now held at Penrith Museum. The larger of these sandstone cobbles (**CU0025**) has three cup-and-ring motifs filling one, slightly domed surface; peck marks are clearly visible (**Figure 9-21**). The second cobble (**CU0026**) (**Figure 9-22**) is slightly smaller and has a simpler motif comprising a cup with an incomplete ring around it; an elongated cup (groove?) joins the arc at right-angles.

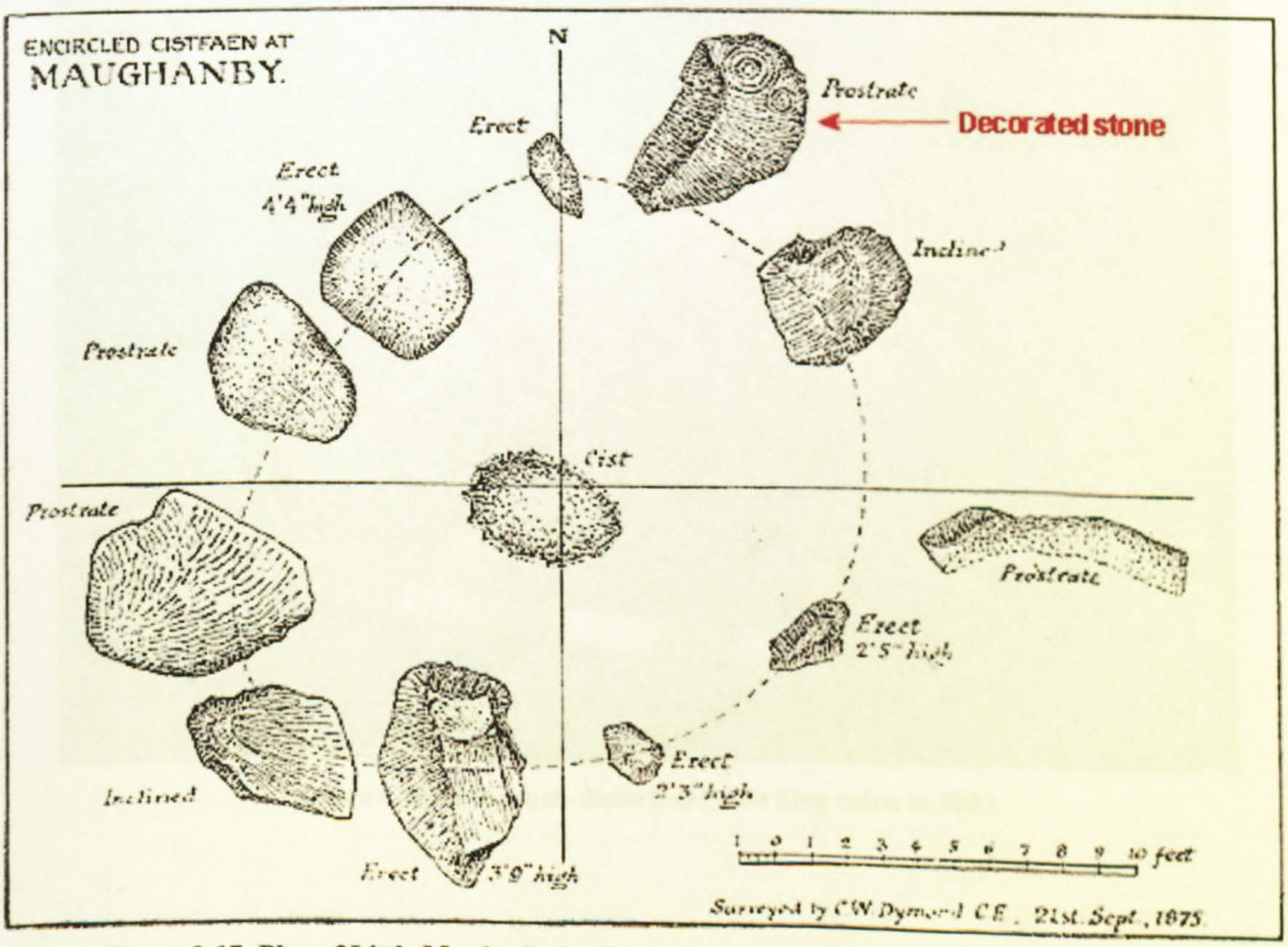


Figure 9-17: Plan of Little Meg kerbed cairn by Dymond, 1875. (Collingwood, 1913: 407)

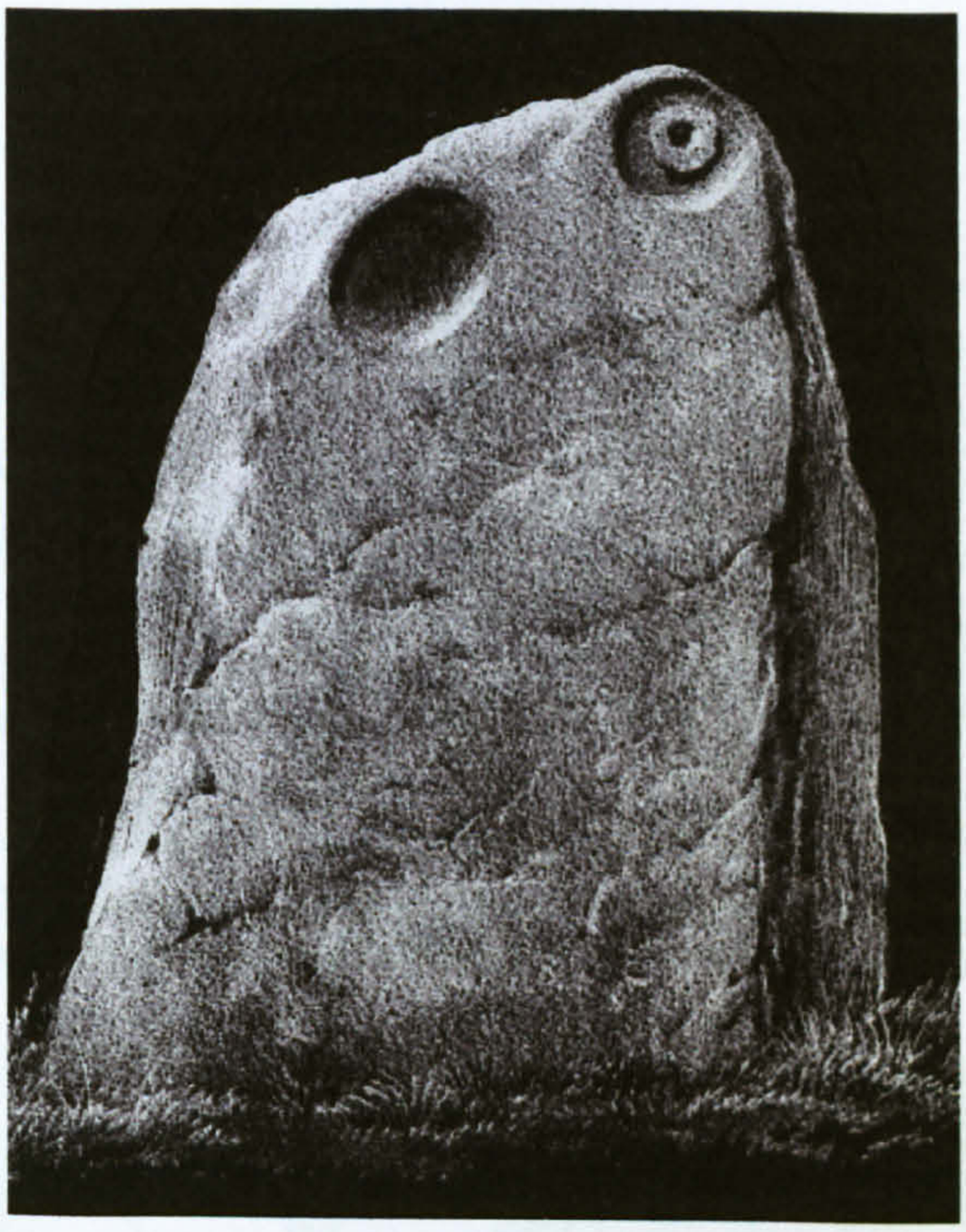


Figure 9-18: Lost kerbstone at Little Meg recorded by Simpson (1867, plate V).



Figure 9-19: The much-disturbed Little Meg cairn in 2003.

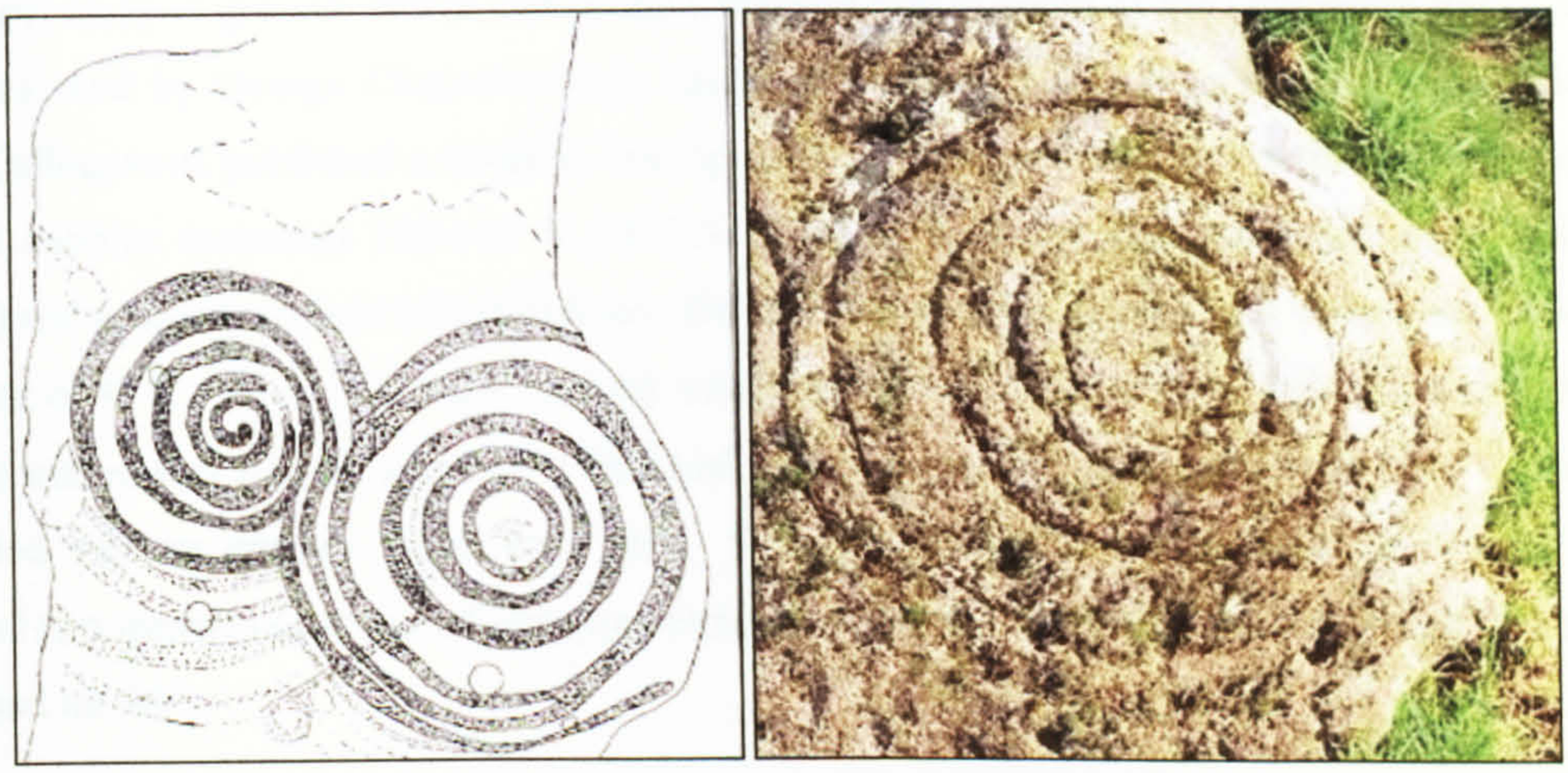


Figure 9-20: The Little Meg carvings recorded by Beckensall (2002, fig. 92) (left) and detail captured by Megalithics (web ref #9) (right).

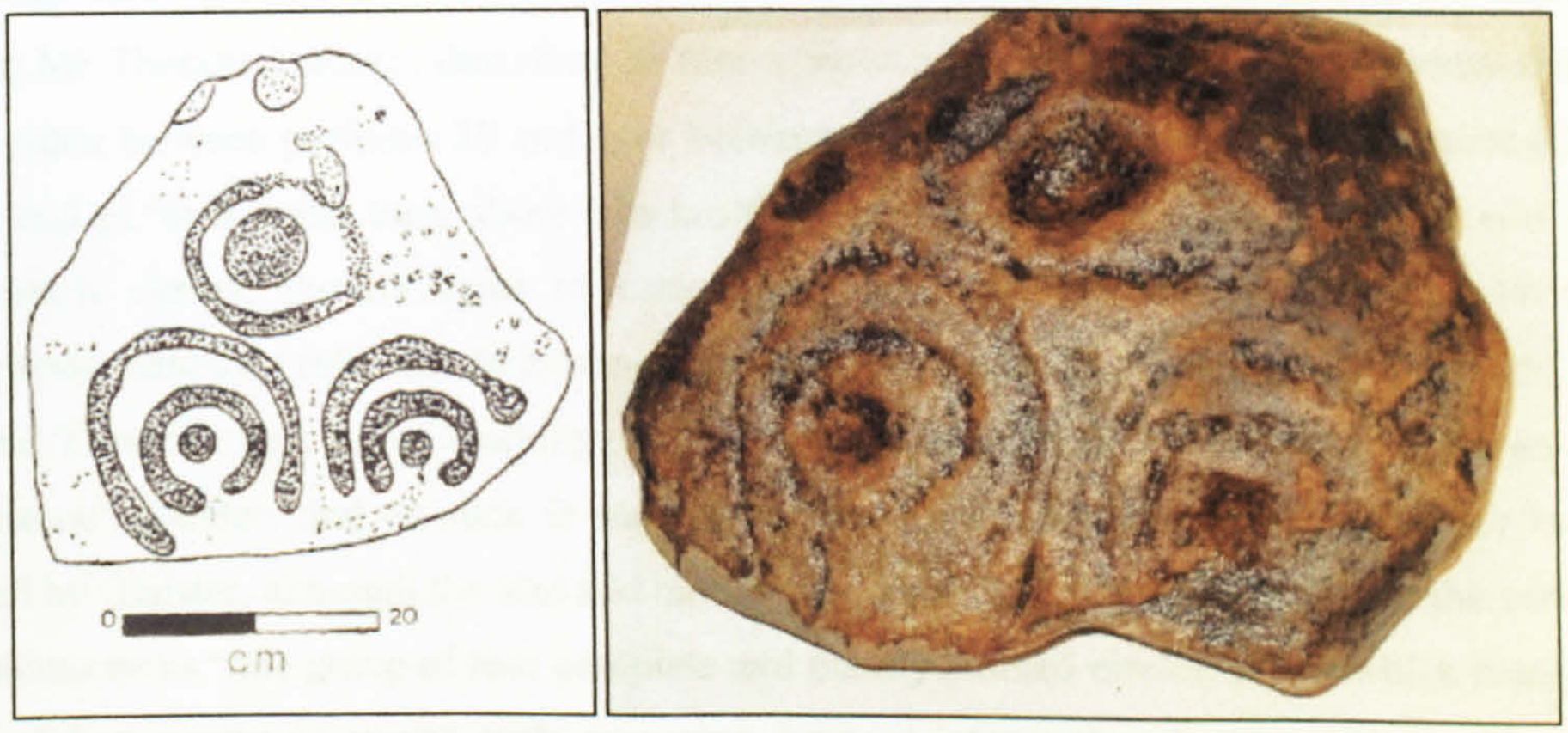


Figure 9-21: Little Meg cist cobble no. 1. Left – recording by Beckensall (2002: fig. 95); right – photograph from Beckensall (2002; plate 26).

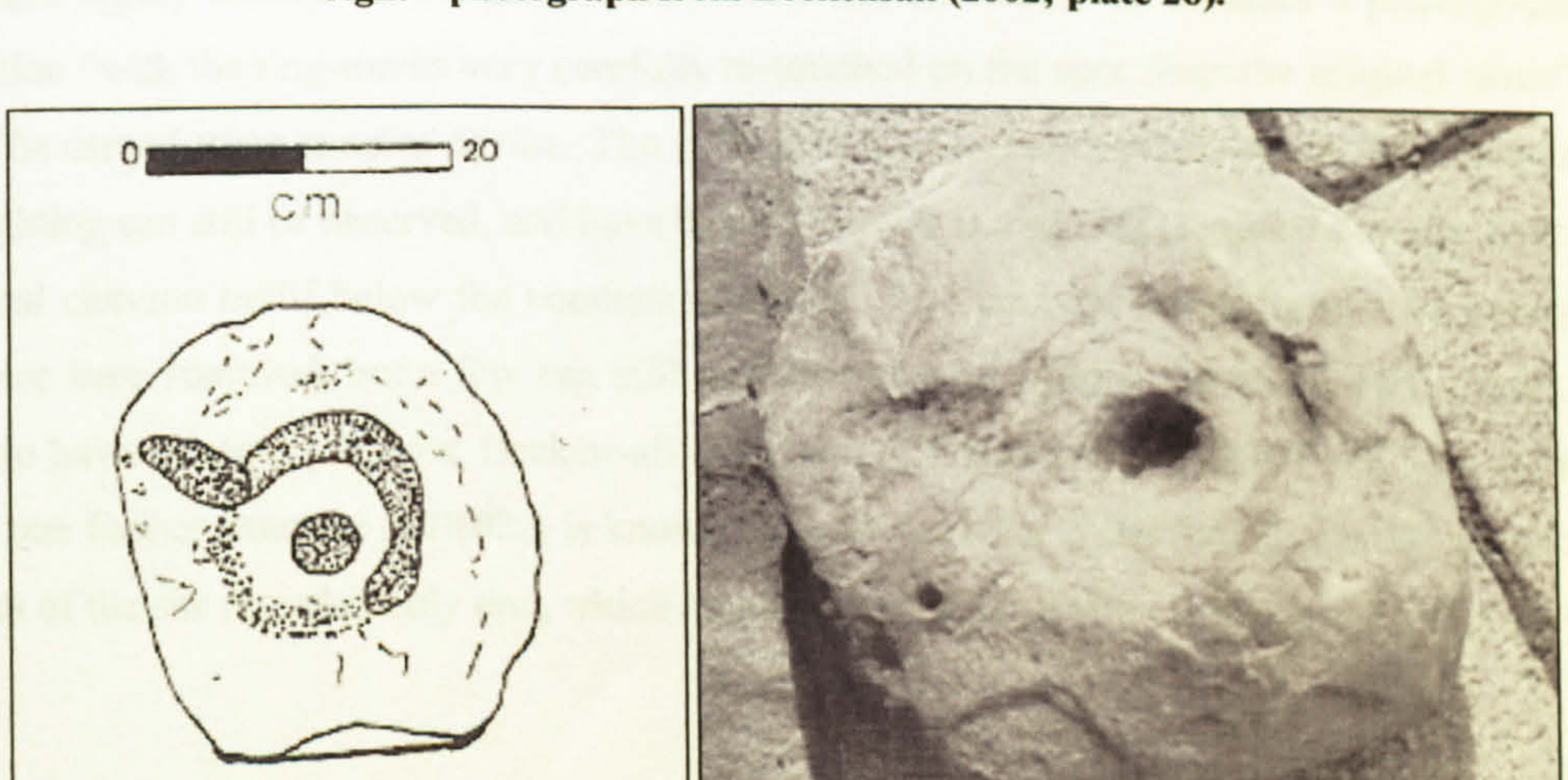


Figure 9-22: Little Meg cist cobble no. 2. Left – recording by Beckensall (2002: fig. 95); right – photograph from Beckensall (2002; fig. 97).

9.2.3 Glassonby (CU0028, 29, 30, 31, 32; SMR 97; NY57293934)

The cairn circle at Glassonby (also known as Grayson's Land) lies approximately 2 km further down the valley, on level ground, 700 m east of the Eden and 500 m south of the Glassonby Beck. The site was excavated by George Cheeseborough, under the direction of Reverend Canon Thornley, and W.G. Collingwood published a detailed description (Collingwood 1901). The kerbed cairn of river-washed cobbles measured 100-110 ft (30.5-33.5 m) in diameter (the north-east edge lost to the plough) and reached a height of 2 ft (0.6 m). Beneath the cobbles, thirty small kerbstones enclosed an oval area of 49 ft x 44 ft. (15.7 m x 14.0 m) within which was a cist formed from red sandstone slabs (no decoration was noted), a patch of charcoal, and an unusual transparent pale blue faience bead decorated with an opaque, white wavy line. Secondary deposits found within the cobble mound included two interments of burnt bones, one beneath a collared urn which was decorated with six lines of incised motifs[6].

The thirty kerbstones are described in great detail by Collingwood. They formed a "continuous fence", not sunk into the ground but propped up with small cobbles. He also notes that a local resident, Mr Thomas Glaister, described to him a stone which had been present twenty-five years earlier, either between positions 30 and 1, or between 5 and 6 (see **Figure 9-23**). The stone (**CU0029**) is described as "over 3 feet long, about 6 inches thick, and 2 feet high, of red sandstone, with a spiral or concentric circles, like the figure on Long Meg, incised on its side" (Collingwood 1901: 298). Collingwood makes no reference to carvings on the stone at position 28 in his plan (**CU0028**), but the Reverend Thornley later noted markings on its "smooth inner face" (1902: 382). This was a grey 'cobblestone' boulder, and as such is unlikely to have been confused with the earlier red stone observed by Glaister, although the size and motifs sound similar[7]. Thornley describes the carvings on the cobblestone as "one group of four complete and plainly marked circles, above which there are two groups of four circles or curves each, springing from or intersecting the ring below. The work is rudely and lightly hacked on the hard cobble-stone" (ibid.: 382). He includes a photograph in the publication "with the ring-marks very carefully re-touched on the spot from the original stone" (ibid.: 383). The carved stone remains *in situ*. The marks are faint and partially obscured by lichen, but with good lighting can still be observed, and have been drawn by Beckensall (**Figure 9-25**) who captured an additional chevron motif below the concentric circles. The cobbles which formed the mound have long since been removed, but a few can still be found scattered along the edges of the field. Some appear to have single cup-marks: Beckensall notes two (**CU0030** and **CU0031**) (2002: fig. 104-5) and at least one further example (**CU0032**) is known to be in a private collection (J. Clarke, pers. comm.). A search of the site revealed only one, which matched one of the Beckensall examples (**Figure 9-26**).

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[6] The urn and the bead are now held by Tullie House Museum, Carlisle.
[7] Thornley's stone is described by Collingwood as measuring 42 x 23 x 19 inches (cf. 36 x 6 x 24 inches for the missing sandstone block).

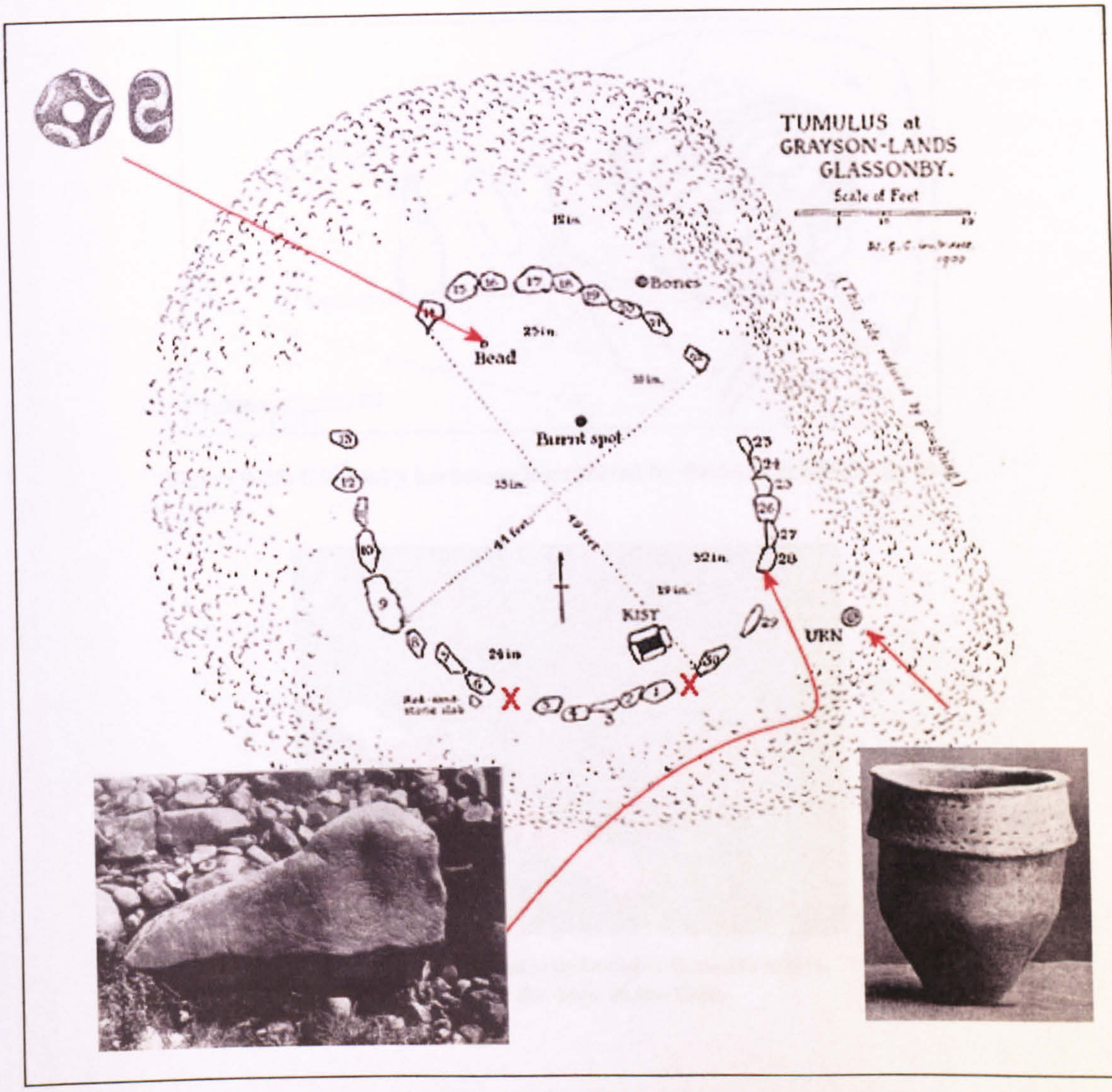


Figure 9-23: Glassonby cairn recorded by WG Collingwood (1901: 296).
The two Xs mark possible positions of a second carved stone.

Figure 9-24: The Glassonby kerbstone photographed by Megalithics (web ref #9).

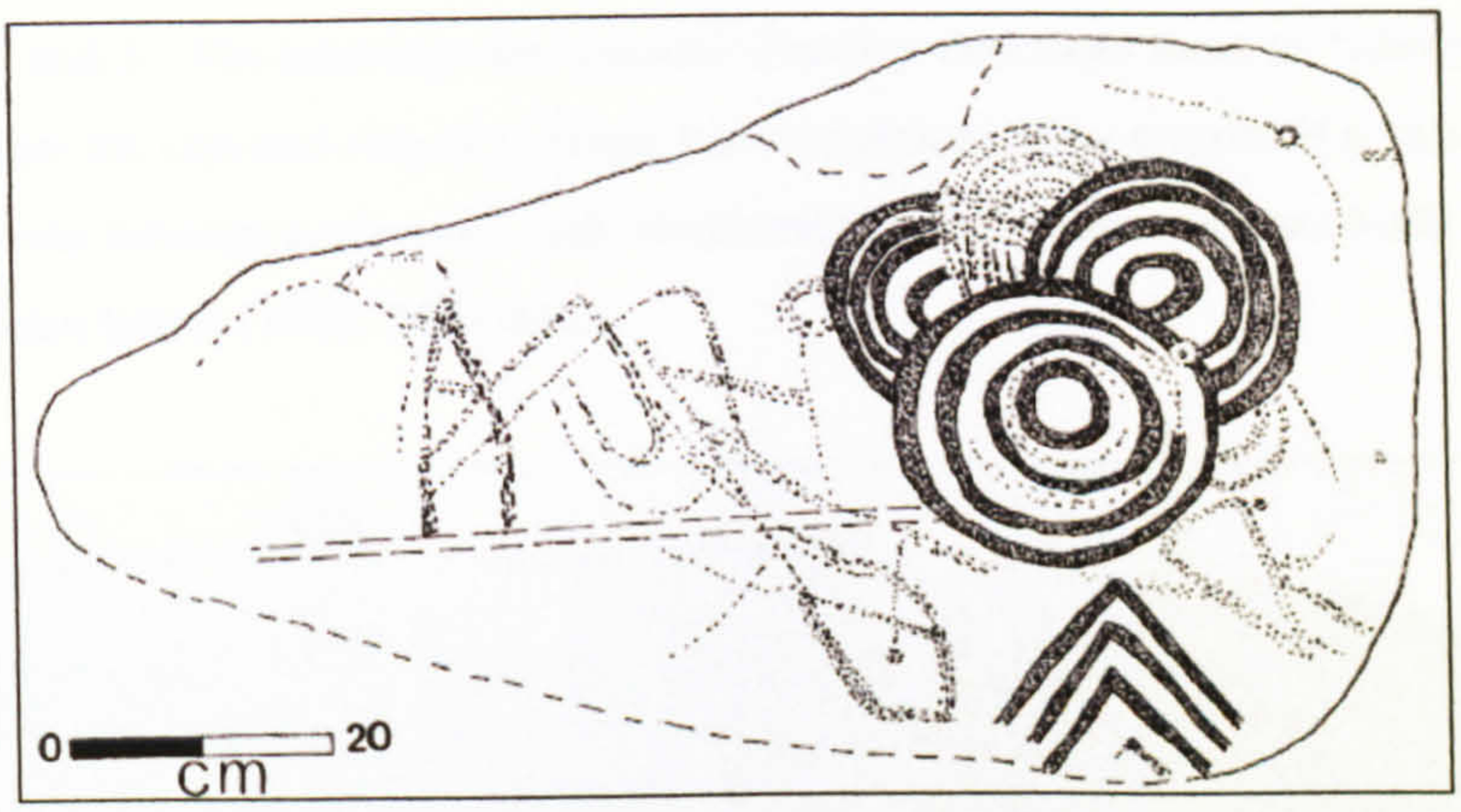


Figure 9-25: Glassonby kerbstone interpreted by Beckensall (2002: fig. 101).



Figure 9-26: Cup-marked cobble from the cairn, found at the edge of the field.

9.2.4 Old Parks (CU0033, 34, 35, SMR 930, NY56993988)

The most northerly of the 'east of Eden' monuments lies just a few kilometres along the river from Glassonby, at Old Parks, Kirkoswald. In 1892 a mound of loose stones was removed by workmen, revealing a line of five erect slabs forming a partition across the (narrower) north-south axis of the oval area. Photographs of the 'wall' *in situ* provide an invaluable record (**Figure 9-27**). Three of the sandstone slabs were carved; two were recovered from the farm in 1987 and are now held by Tullie House Museum, Carlisle; the third is sadly lost. The site was originally reported by Ferguson (1895) who recounts a haphazard investigation by the workmen and the landowner, revealing various artefacts including two 'incense cups', one containing twelve beads, and a large cremation urn containing burnt bones. With the cobbles removed it became apparent that the slab wall divided the oval into two distinct areas: to the west of the wall were found thirty-two individual cremation deposits whereas to the east, two grave trenches aligned east-west were identified. In the larger trench some burnt bones were recovered beneath a stone slab. The incense cups and cremation urn were found at the edge of the cairn, the cups at the north and the urn at the south, under tree roots. A sketch plan created by Beckensall helps to clarify the site (**Figure 9-28**).

The decorated slabs were each carved on just one face: the western face of stone 4, and the eastern faces of stones 3 and 5. The markings are unusual; Bradley describes them as "idiosyncratic" (1997: 111). Unlike either the cup-and-ring or passage grave traditions, they consist of a series of curvilinear and angular grooves forming enclosures, and 'shepherd's crook' shapes (**Figure 9-29**) which Thornley likens to Phoenician letters (1902: 380-381).



Figure 9-27: Old Parks stones *in situ* captured in 1902 (From Beckensall 2002: fig.112)

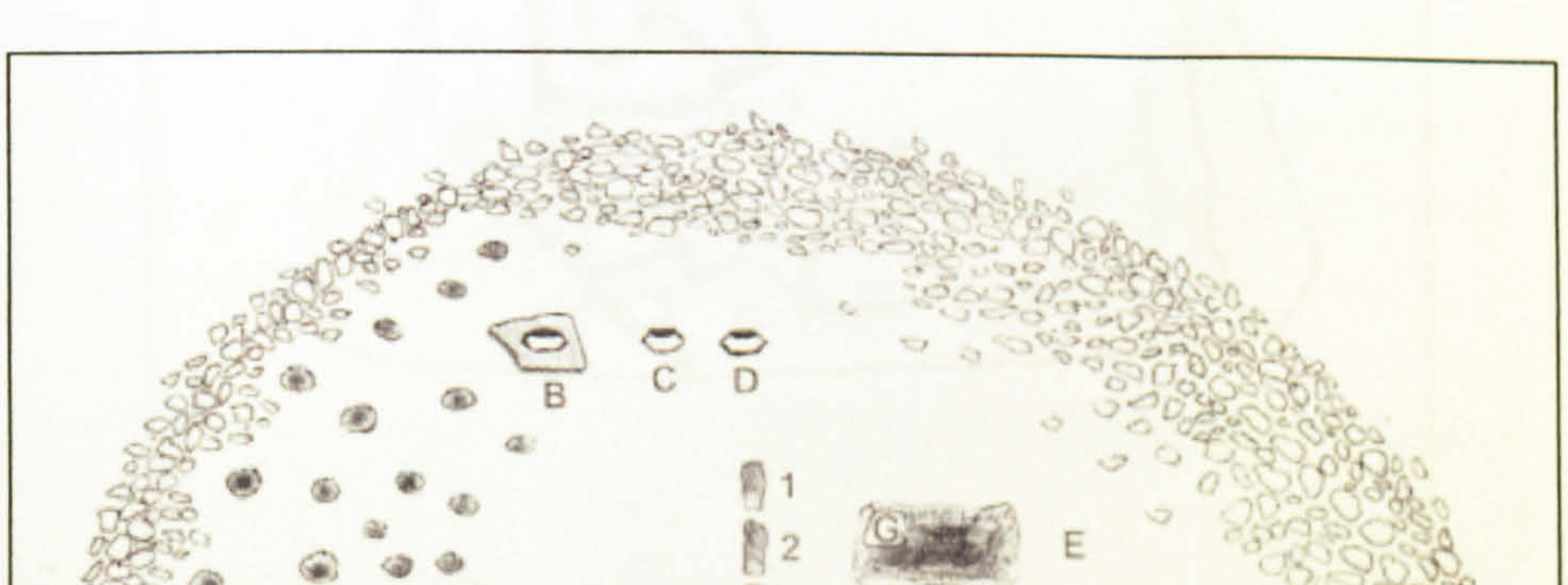


Figure 9-28: Sketch plan of Old Parks mound after Beckensall (2002: fig, 108). Red lines indicate carved faces.



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Figure 9-29: Old Parks stones interpreted by Beckensall (2002: fig. 113-115).

9.2.5 Redhills (Stainton Island) (CU0037; SMR 1147, 2930, 4681; NY50192776)

In 1880 workmen discovered a carved sandstone slab covering a cist cut into limestone bedrock at Redhills on the northern bank of the River Eamont, 2 km west of Mayburgh Henge. This elaborately decorated stone - a rare example of carving identified *in situ* - is now sadly lost, and the exact position of the cist is unclear. The Sites and Monuments Record gives three alternative locations: NY4934022710 (SMR1147), NY50192776 (SMR4681) and NY49502898 (SMR 2930). Taylor (1883) records that the stone was "broken in several pieces" and that he assembled them in order to photograph the whole, so perhaps the individual fragments are now no longer together. Fortunately, an engraving is published with the original paper (**Figure 9-30**) and Taylor provides an extremely detailed account. The stone is described as a slab of un-quarried "white freestone", further identified as "soft sandstone", although Frodsham (1989:16) indicates limestone, perhaps confusing it with the limestone bedrock of the cist. It was roughly ovoid in form, measuring 163 cm x 107 cm, with a width ranging from 20 to 34 cm. Only the smooth, lower face was decorated, the upper surface being "rough and irregular" and having been badly marked by ploughing. Taylor divides the carvings into four groups: cups (24 in total); two central hollows each surrounded by two concentric circles, both being incomplete and bisected by a radial groove; grooves or 'gutters' running in various directions; and small pits picked out all over the surface. The chisel marks are described as "distinct and fresh, as if done yesterday".

The slab was found "about ten inches" (0.25 m) under the surface, covering a rock-cut cist which measured 1.2 m x 1.1 m x 0.9 m with the axis lying ENE-SSW. The space was lined with cobble stones and filled with loose soil of a blackish colour. Small pieces of burnt wood and fragments of calcined bones were recovered but neither slabs nor soil showed evidence of burning. No grave goods were found and no mound was observed above the cist.



Figure 9-30: Redhills cist cover, recorded by Taylor, 1883.

9.2.6 Portable rock art

The term 'portable' is generally used to describe carved panels which lack clear context or providence, but can be misleading. Although several examples from the Eden Valley could easily be moved by hand, others would require serious machinery: the 'Eden Hall' stone weighs 3200 kg. Other panels are now re-used in modern structures, their original setting unknown although, with the exception of the Eden Hall stone, all are red sandstone blocks, so that their Eden Valley provenance is well established.

Table 9-3: Eden Valley panels with unknown original context

Panel ID	Panel name	SMR	NGR	Panel type	Rock type	Panel context	Motifs present	Current location
CU0027	Penrith	5492	Unknown	Cobble	Red sandstone	Unknown	Cups	Penrith Museum
CU0057	Ruckcroft	19863	NY53604470	Portable cobble	Red sandstone	Surface find	Cup, penannulars, duct	Private owner
CU0058	Stagstones Farm	6507	NY53663157	Portable cobble	Red sandstone	Dry stone wall	Cup and ring	Penrith Museum
CU0059	Eden Hall	2863	NY55202990	Large boulder	Gabbro	Part buried	Cup and rings, cups, grooves	Tullie House
CU0070	Crosby Ravensworth	-	NY61881279	Cobble	Red sandstone	Surface find	Cups	Private owner
CU0071	Thacka Dene	-	NY50753075	Cobble	Red sandstone	Dry-stone wall	Cups	Private owner
CU0072	Rigglands	-	NY63503150	Re-used	Red sandstone	Farmhouse lintel	Single cup	*In situ*
CU0073	St Andrews	-	NY51503050	Re-used	Red sandstone	Giant's Grave, cross	Single cup	*In situ*

The Eden Hall Stone (CU0059, SMR 2836, NY552299)

This substantial boulder was found in 1909, partially buried in the banks of the River Eamont at Honey Pot Farm (Ferguson 1910) just a few kilometres downstream of the Redhills cist, and is currently on display at Tullie House Museum, Carlisle (**Figure 9-31**). It is a striking example of gabbro, a hard black stone, speckled with white which occurs in only a few locations in Britain, the closest to the Eden Valley being just over 20 km to the east at Carrock Fell. One side of the boulder is extensively decorated with a series of cup-and-ring motifs enclosed within an oval groove; the panel has been recorded by several researchers (**Figure 9-32**). This composition fits well within the cup-and-ring tradition with similar examples of enclosing grooves known from Cartington Castle and Corbridge, both in Northumberland (**Figure 9-33**).



Figure 9-31: Eden Hall stone at the Tullie House Museum, Carlisle.

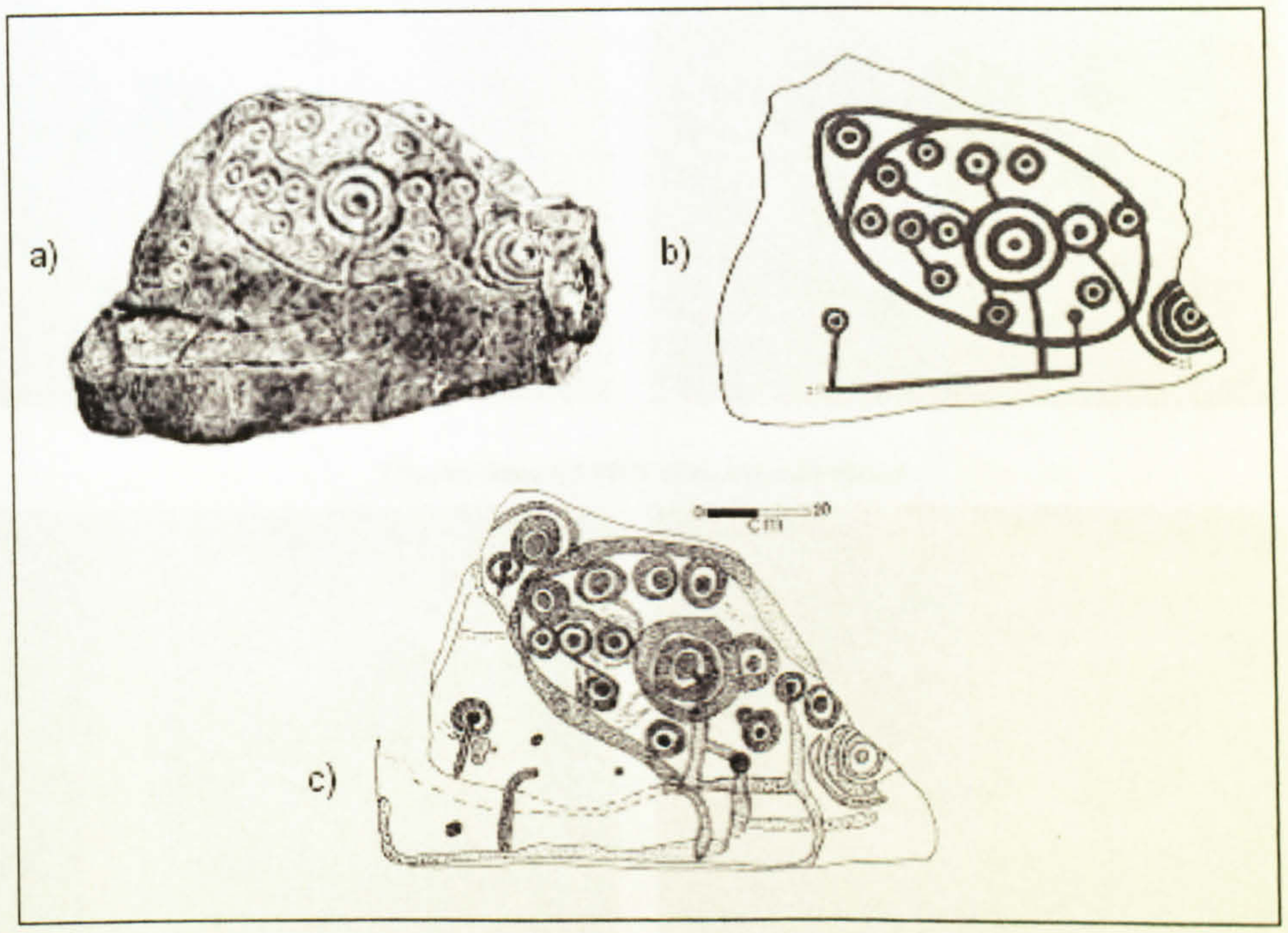


Figure 9-32: Impressions of the Eden Hall stone. a) antiquarian sketch (Fergusson 1910: 508); b) drawing, Frodsham (1989: fig. 3); c) drawing from a wax rubbing (Beckensall 2002: fig. 166)

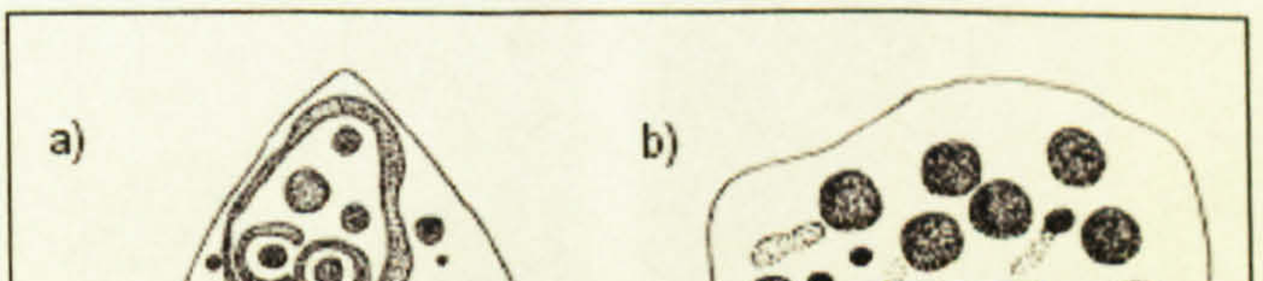


Figure 9-33: Examples of enclosing grooves from a) Cartington Castle, and b) Corbridge, both in Northumberland. (Web ref #5; not to scale)

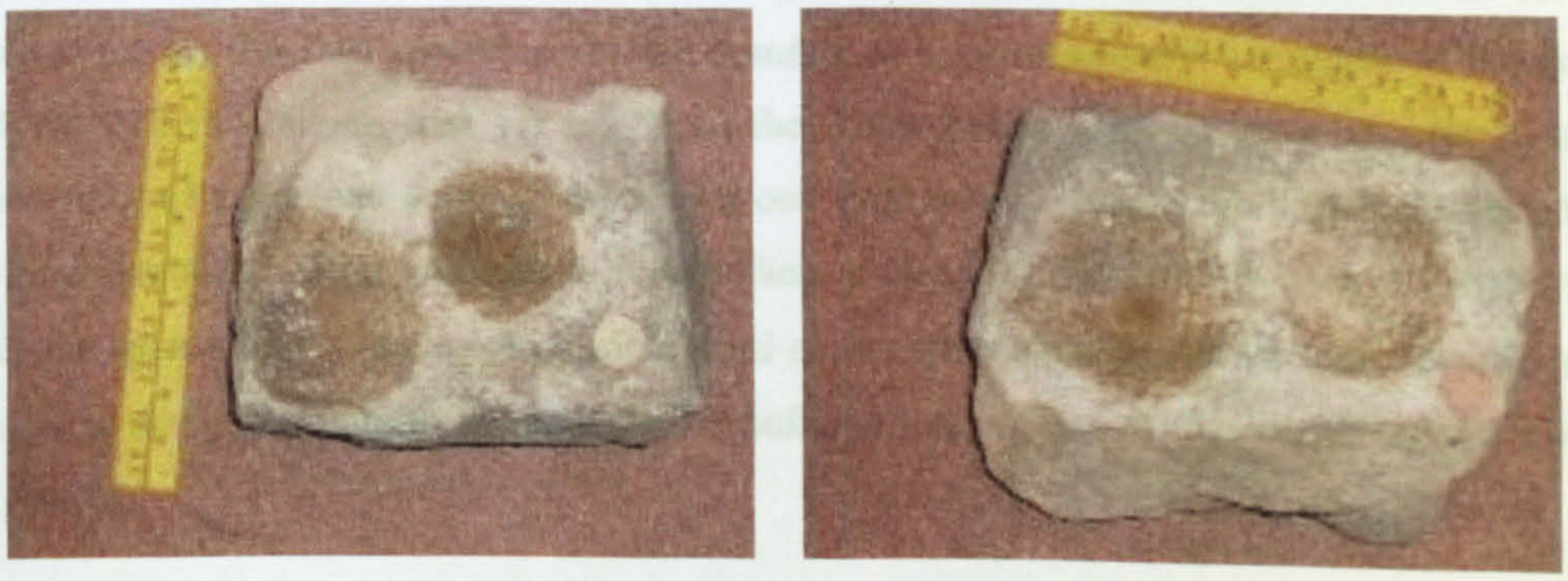
Cup-marked cobbles

Cup-marked cobbles were noted from the Glassonby cairn. Three similar examples with less clear context have also been identified in the Eden Valley. They differ from the Glassonby cobbles in that they have multiple cups and are carved on both sides. Beckensall (2002: 131) lists one **(CU0027)** as held at Penrith Museum; examples have since been identified at Thacka Dene, Penrith **(CU0071)** (found in a dry-stone wall), and on the limestone uplands of Crosby Ravensworth Fell to the south **(CU0070)**. Although not strictly from the Eden Valley, this stone is included as it is similar and was found in a neighbouring region. Both new discoveries are now in the custody of their finders, but were temporarily held by Penrith Museum where they were recorded and photographed (**Figure 9-34**). The Thacka Dene stone appears to have been roughly shaped into a rectangular block, most likely for use in the wall. In all cases a function as a gate pivot cannot be discounted.

Penrith, CU0027 (Penrith Museum



Thacka Dene CU0071 (Private collection)



Crosby Ravensworth, CU0070 (Private collection)

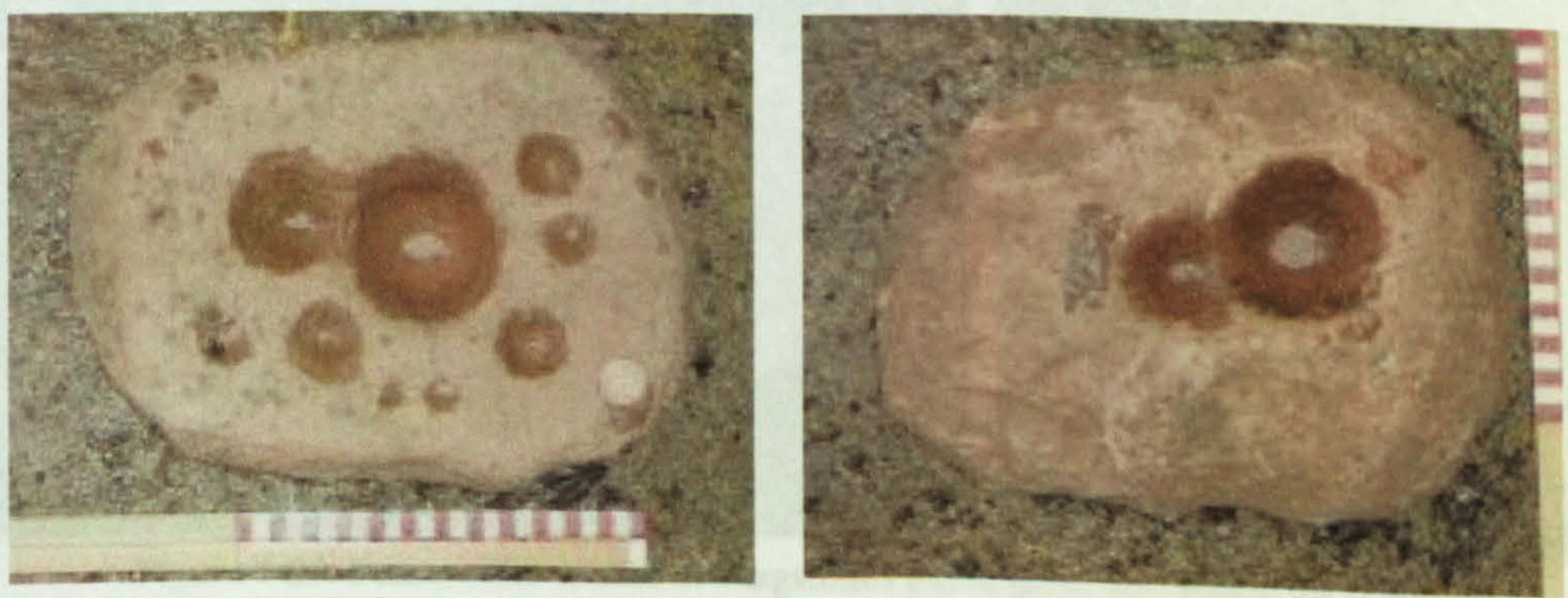


Figure 9-34: Penrith cup-marked sandstone cobbles (Front and reverse).

Portable Penannulars

Two portable stones found in the Eden Valley share a common motif. The panels from Stagstones Farm **(CU0058)** and Ruckroft **(CU0057)** are both decorated with a penannular design comprising a number of incomplete concentric rings, cut by a radial groove extending from a central cup. Several such motifs are known in Cumbria, with examples in monumental contexts (e.g. Long Meg, Redhills), in a landscape context at Leonards Cragg **(CU0055)** on the eastern border, and on a 'portable' stone at Dean **(CU0061)** in the west of the county.

The Stagstones Farm panel was found in 1984 by British Gas at the base of a dry-stone wall 1 km north-east of Penrith. Frodsham (1989: 4) notes no monuments of any kind in the vicinity and the SMR record speculates that the stone may have been imported as a decorative feature for Stagstones mansion. The red sandstone slab measures 53 cm x 26 cm, and is decorated on just one, flat surface. The main motif comprises three penannular rings around a central cup (3 cm dia., 1 cm deep), the outer ring having an external diameter of 22.0 cm; there is no radial groove. One end of the outer ring appears truncated suggesting the slab was broken, perhaps prior to its incorporation into the wall. Outside the ring motif is an oval 'cup' (6.5 x 4.5 cm) and an elongated area of pecking suggestive of a fourth ring. A second oval (3.0 x 2.0 cm) is pecked on the opposite side of the rings. Frodsham (ibid: 3) notes that the three cups are positioned along a single axis. Peck marks are clearly visible indicating that the stone could not have been exposed for a lengthy period.

A second stone **(CU0057)** bearing a penannular motif is recorded by Beckensall (2002: 127), but is now held privately and was not examined during this study. The stone was found in the 1960s; Beckensall places the find spot close to the summit of a small hill 0.5 km north of Ruckcroft, at around the 210 m contour, and 1.5 km from the River Eden to the south-west. He describes a triangular-shaped sandstone cobble, smooth on one face with a plough mark, and decorated on the other, irregular side. Two concentric penannulars surround a central cup with a groove running towards the apex of the triangle. A possible third concentric groove in the form of a small arc is also visible. The design appears to incorporate the bulbous form of the cobble which tapers towards the radial groove.

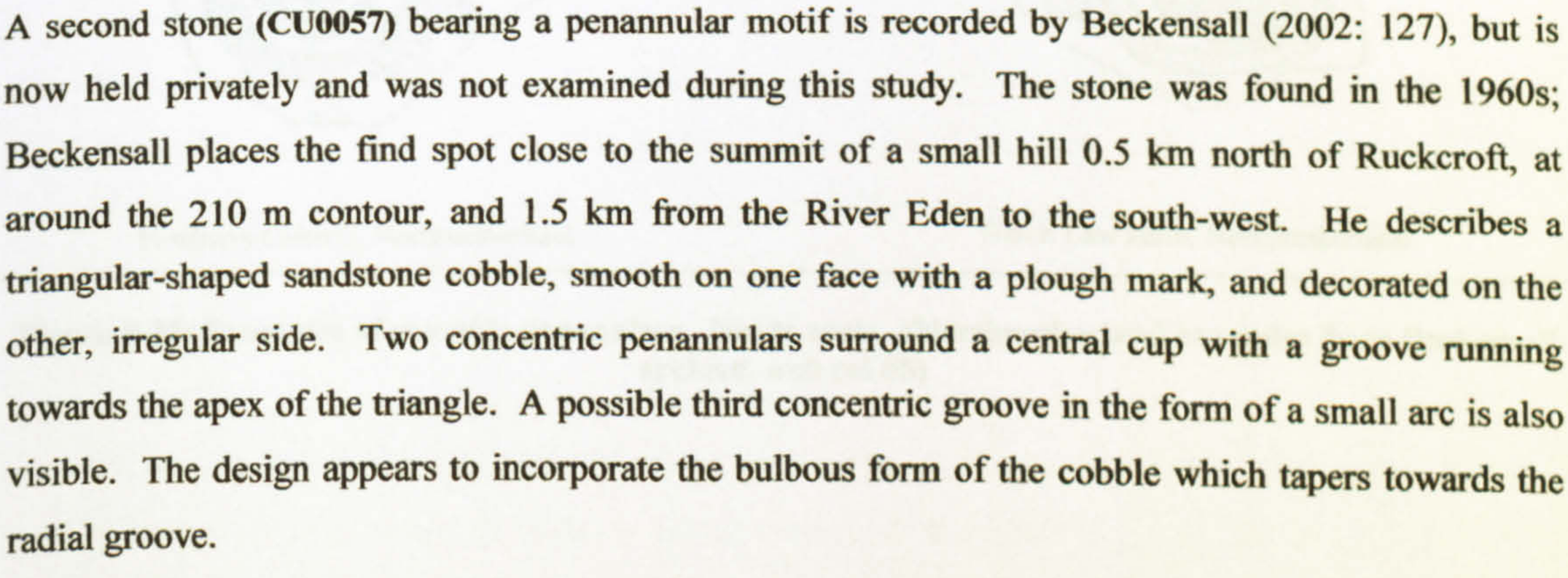


Figure 9-35: Penannular motifs at Stagstones Farm (left) and Ruckroft (right). From Beckensall (2002: fig. 161 and 159 resp.).

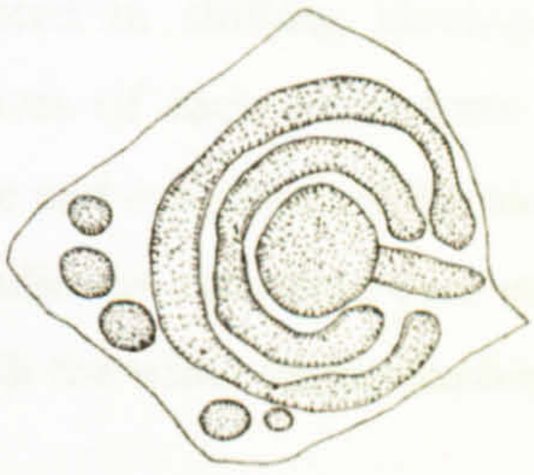
As noted there are other examples of this motif in Cumbria, and looking beyond the study area the penannular is fairly widespread, although portable examples are less frequent. Beckensall (ibid.128) highlights the similarity between the Ruckcroft stone and the Deershed stone from Northumberland (**Figure 9-36**). A further example is Bardistane Stone 2 (Morris 1979: 55) from Kirkcudbright, Galloway. All three are triangular cobbles with the groove of the penannular aligned with the apex of the triangle suggesting that either the motif was designed to fit the stone, or the stone was deliberately shaped to enhance the motif.



Deershed, Newcastle Museum



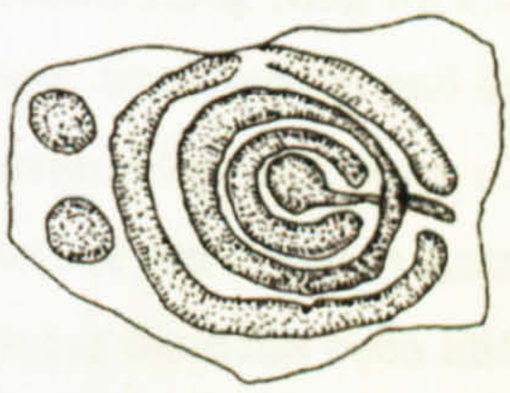
Bardistane 2, Galloway



Ord a, Northumberland



Fowberry Cairn Q, Northumberland



Watch Law Farm, Northumberland

Figure 9-36: Examples of portable penanulars. Not to scale. (Northumberland examples from Beckensall archive, web ref #5)

9.3 Discussion: context and connections

In the previous two chapters it was suggested that carved stones in the landscape may have marked places with special significance, perhaps related to ancestors, spirits or to movement through sacred landscapes. The monumental context of the carved stones in the Eden Valley demonstrates a less ambiguous relationship with ritual activities, and also with more specific prehistoric periods. With the exception of Long Meg, the carved stones with firm contexts are all in Bronze Age burial monuments. But can we be sure that this was the primary role of the carved stones or do their origins lie elsewhere? Might their present context represent a redeployment of stones already regarded as special, perhaps sacred, demonstrating a continued knowledge adapted to shifting ideologies? Further, although the monumental sites lie within just a few kilometres of each other there are significant differences both in the architecture of the sites and in the style and execution of the motifs (even within the same site) which may reflect a sequence of building traditions extending over many years, with stones used and re-used several times. How might this fit with the wider understanding of prehistoric activities within the Eden Valley?

Despite its rich variety of prehistoric monuments, the area has received little attention from professional archaeologists. With the exception of the surveys around Long Meg by Clare, and the laser scanning of the carvings at Long Meg, much of the excavation, investigation and interpretation of this important valley have been undertaken by local Victorian antiquaries. The stone circle and the henges have been the subject of much speculation regarding alignments and figure in grand narratives concerning the trade and exchange of Type VI axes from Langdale, but there has been little attempt to understand the valley as a whole. Recent field-walking exercises may go some way to address this, but there remain many unanswered questions, particularly concerning the location of the settlements of the communities who planned, built and congregated at places such as Long Meg and Mayburgh, and who later buried high-ranking members of their society along the eastern bank of the Eden.

It is likely that the valley was first visited by small parties of hunter-gatherers, following the river upstream, and perhaps using the narrow upper reaches as a regular seasonal hunting chase. Other groups used the more open landscape of the limestone escarpments, where traces of their tools reveal links with the eastern side of the Pennines, where they perhaps exchanged Langdale tuff for brown Yorkshire flint. The Eden rises just a few hundred metres from the source of the River Ure which flows south-easterly, the two rivers providing a convenient means to navigate across the Pennines. The lower reaches of each valley were clearly important foci for prehistoric ritual by the Neolithic period. In Yorkshire, the three Thornborough Henges (Harding 2003) lie close to the Ure; in Cumbria three further henges at Eamont Bridge once marked the opposite end of this line of communication, with the Long Meg ritual complex just a little further down-stream. Did this particular part of the valley have any special characteristics which may have led to this major programme of monument building, and ensure that it retained its significance well into the Bronze Age? The final section of the chapter reviews the landscape around the monuments, synthesising various strands of evidence to

account for this concentration of monuments and megalithic carvings. A tentative chronology is then constructed, incorporating changing ideologies and practices, and acknowledging possible external influences.

9.3.1 Exploring the Long Meg landscape

The Long Meg group of monuments is situated on a low plateau above the eastern bank of the River Eden, which lies in a gorge 100 m below. The stone circle of Long Meg and Her Daughters stands on gently sloping pasture such that the river is not visible, and the dominant view is of the Pennine fells to the west. The large enclosure ditch abutting the circle may represent one of the earliest co-operative building projects in the Eden Valley, designed to impose order on the landscape by creating a clear boundary dividing events 'inside' from those beyond, effectively excluding the outside world. Built around a spring, the enclosure encompasses a small dip cut by a stream such that the natural topography enhances the effect of isolation. Where the stream empties into the Eden (just 1 km north-west), the river is mature, cutting through red sandstone cliffs (**Figure 9-37**). This is the site of Lacy's Caves, where Colonel Lacy, famous for once trying to blow up Long Meg's Daughters, had five chambers carved out of the rock face in the 18th century (**Figure 9-39**). A few hundred metres upstream, still on the eastern bank, is the Longmeg gypsum mine, now disused. Between 1870 and 1976 the mine produced over 5 million tons from an area of little more than 1 km^2. On the opposite bank, between the caves and the mine, is Force Mill, originally a corn mill, where a stone pack-horse bridge once crossed the river (Gordon 1913). Ecclesiastical records state that the bridge was washed away in 1360, but soon replaced, and new bridges followed over the next centuries; little trace now remains. Anecdotes suggest it was known as 'the old Roman Bridge' (ibid.: 172) but no material evidence has confirmed a Roman route across the river[8]. Gordon also records memories of a wooden bridge about a mile above the Force "at a spot where the Scottish raiders in old time made use of a ford" (ibid.). That this was, at least in the historic period, a major crossing point seems undisputed. This brief investigation of the immediate landscape raises a number of possibilities, both sacred and secular, to account for the significance of the area around the Long Meg monuments, and for the origin and changing roles of Long Meg. These are now considered in more detail.

[8] The Roman Road heads north from Penrith to Carlisle, keeping to the west of the Eden.

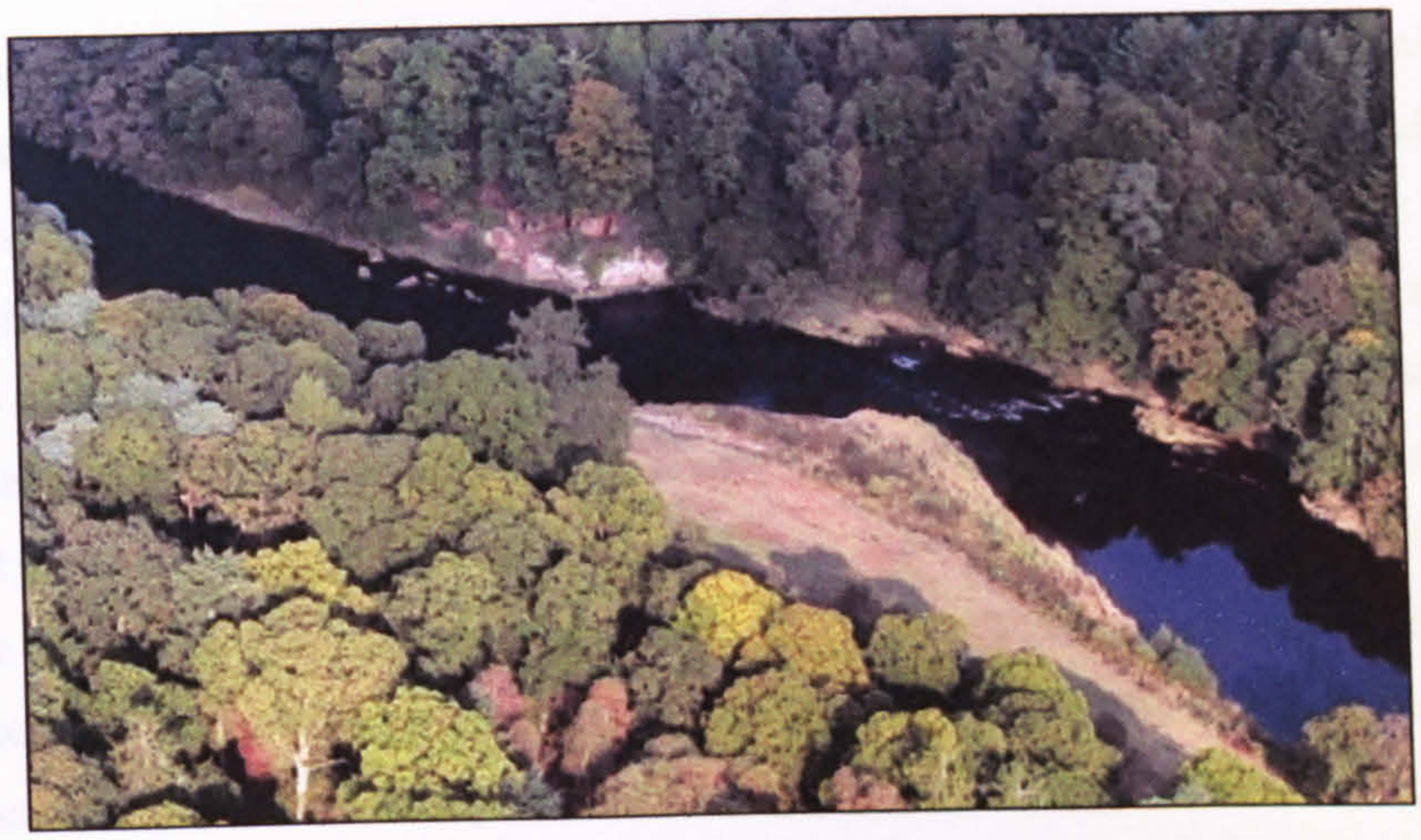


**Figure 9-37: The River Eden close to Long Meg and Her Daughters.
Photo: S. Ledingham.**

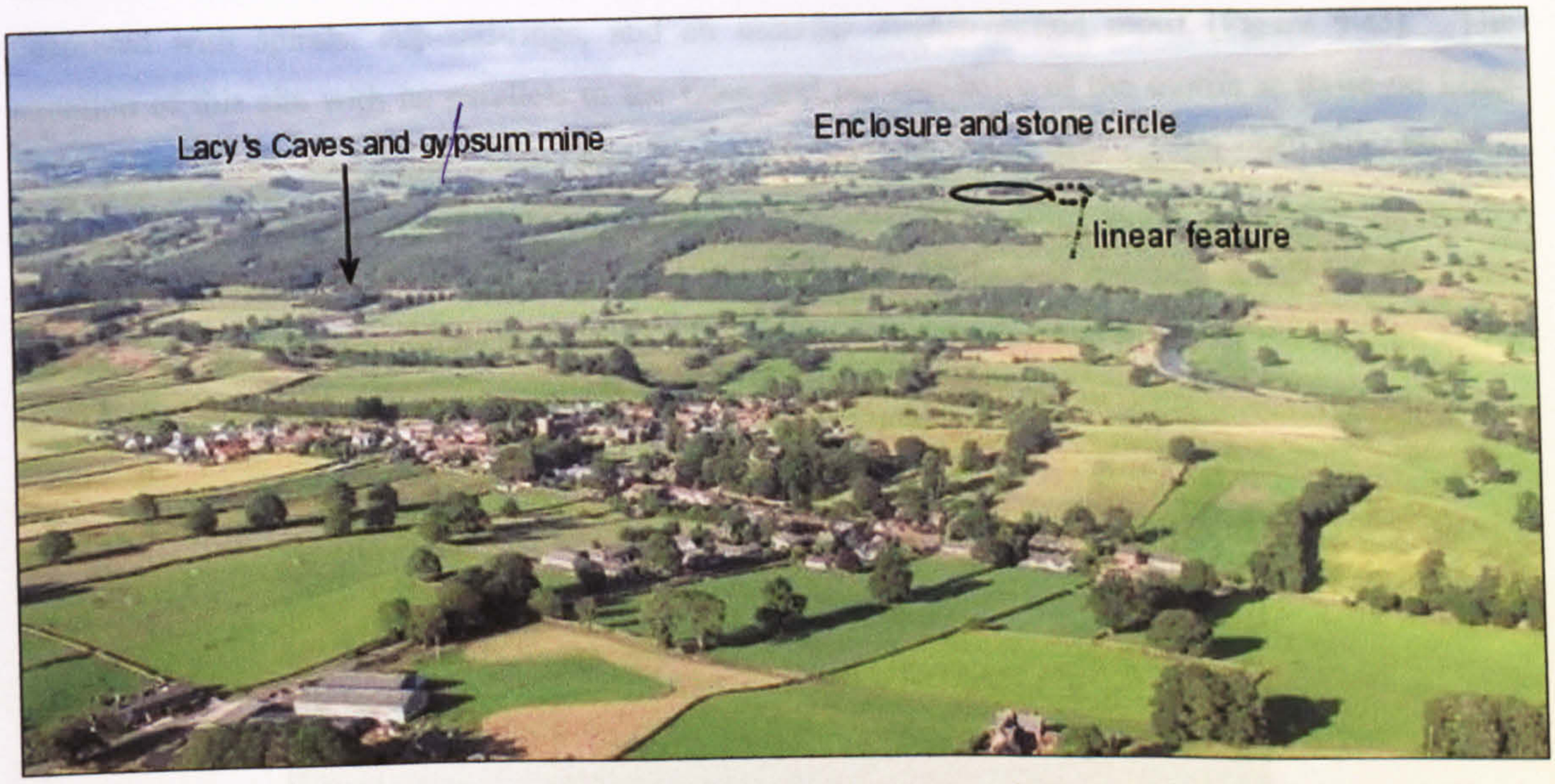


**Figure 9-38: View across Great Salkeld to the Eden showing approximate position of the monuments.
Photo: S. Ledingham.**

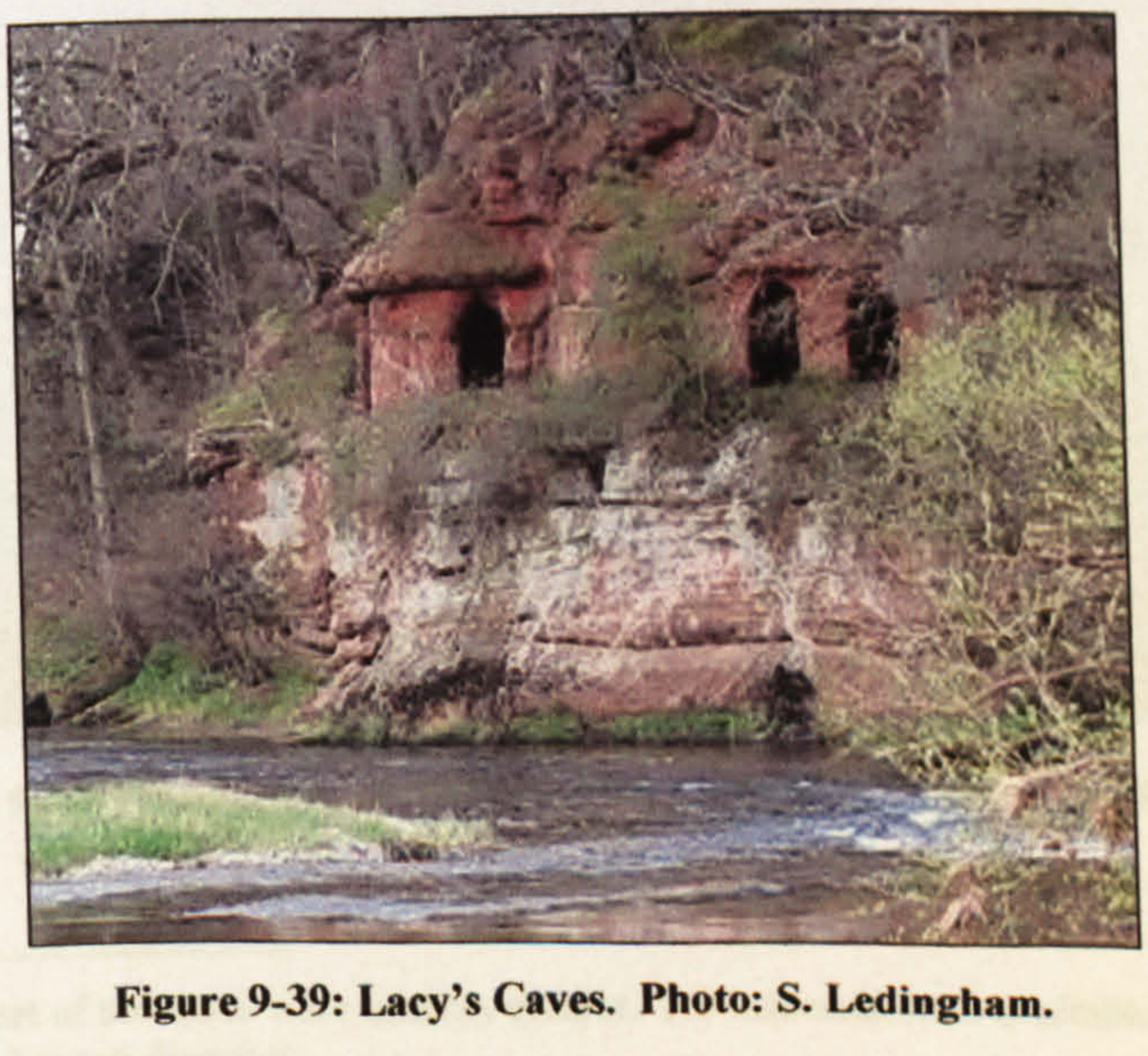


Figure 9-39: Lacy's Caves. Photo: S. Ledingham.

Origins

It is highly probable that the pillar of Long Meg originated from the sandstone cliffs along the River Eden, either deliberately quarried, or detached from the cliff as a result of erosion (similar blocks can be found in the river). The fact that the carvings are limited to one surface suggests that they may have been added when the block was still part of the cliff face although it could be argued that the poorer quality of the stone on the other three facets may have precluded carving, or that the carver(s) deliberately decorated only one panel for other reasons. Frodsham (1996: 111) points to the presence of a truncated motif on the upper part of the stone (**Figure 9-40**) recorded by Beckensall (2002: fig.70) to support the hypothesis that the carvings were added before the block was detached from the cliff face. The laser recording of the same area (Díaz-Andreu et al. 2005: fig. 1) makes such conclusions less clear since the truncated motif (and others in the upper section) cannot be clearly discerned[9] (**Figure 9-41**). An example of rock art which does lend weight to the theory can be found at Morwick Mill, Northumberland. Here the red, sandstone cliffs above the River Coquet (**Figure 9-42**) are decorated with spirals, cup-and-rings, and an unusual double-horned motif (**Figure 9-43**). The situation of this site with its parallels to the Eden and the similarity of the motifs to those on Long Meg make it easy to imagine that Long Meg carvings also began life on the cliff face, perhaps marking a convenient crossing place where later bridges would be constructed, signifying the nearby source of gypsum or simply acknowledging the powerful forces and spiritual nature of the river. Sadly, the cliffs are now much changed, both by Lacy and by the erosive forces of the current, and it is no longer possible to discern whether this was once a quarry site.

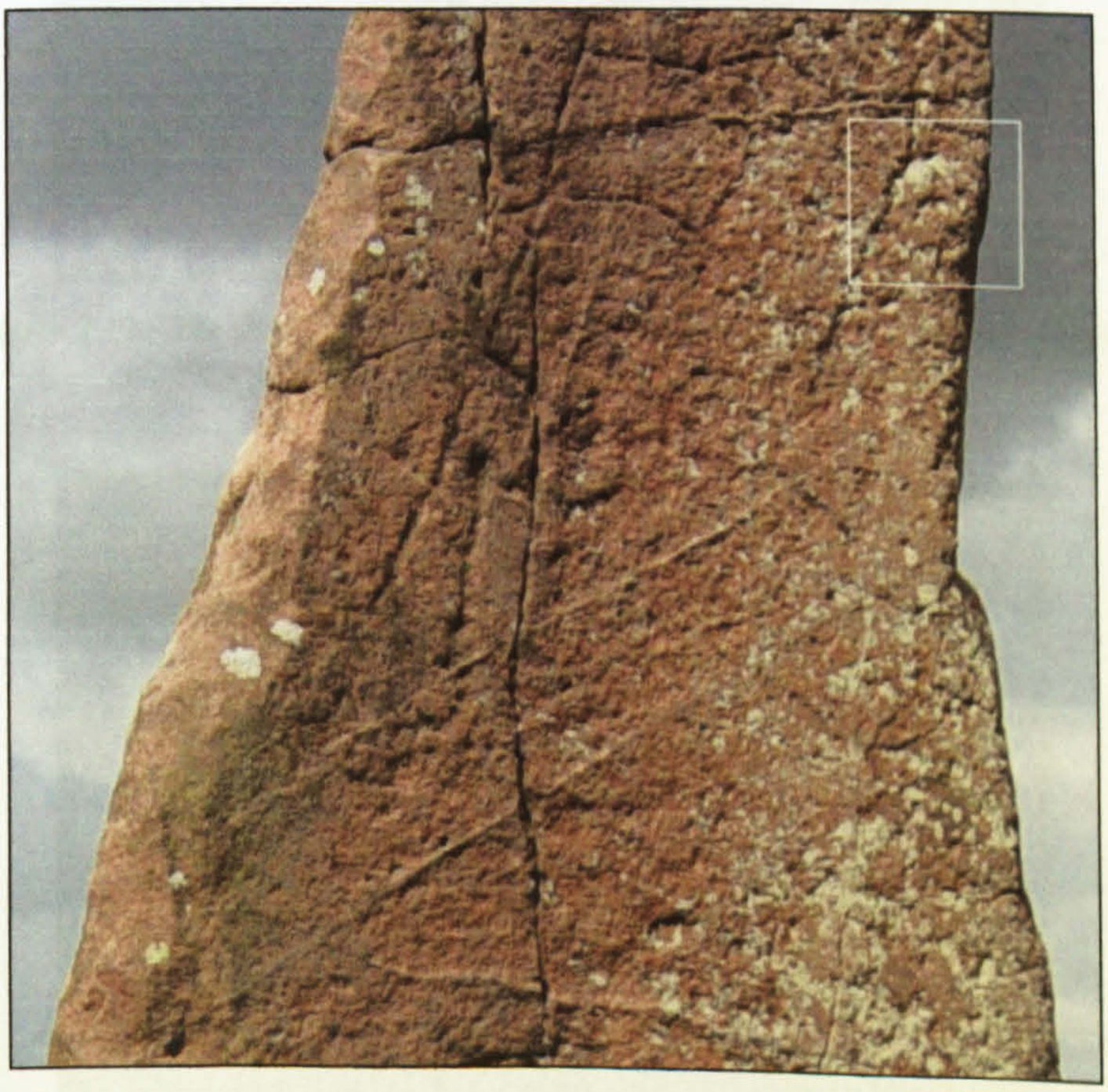


Figure 9-40: Possible 'truncated motif' on Long Meg. Photo: Alice Simpson.

[9] Motifs on the lower part of the stone were notably clearer. No information is available on the methodology used to produce the Beckensall drawing.

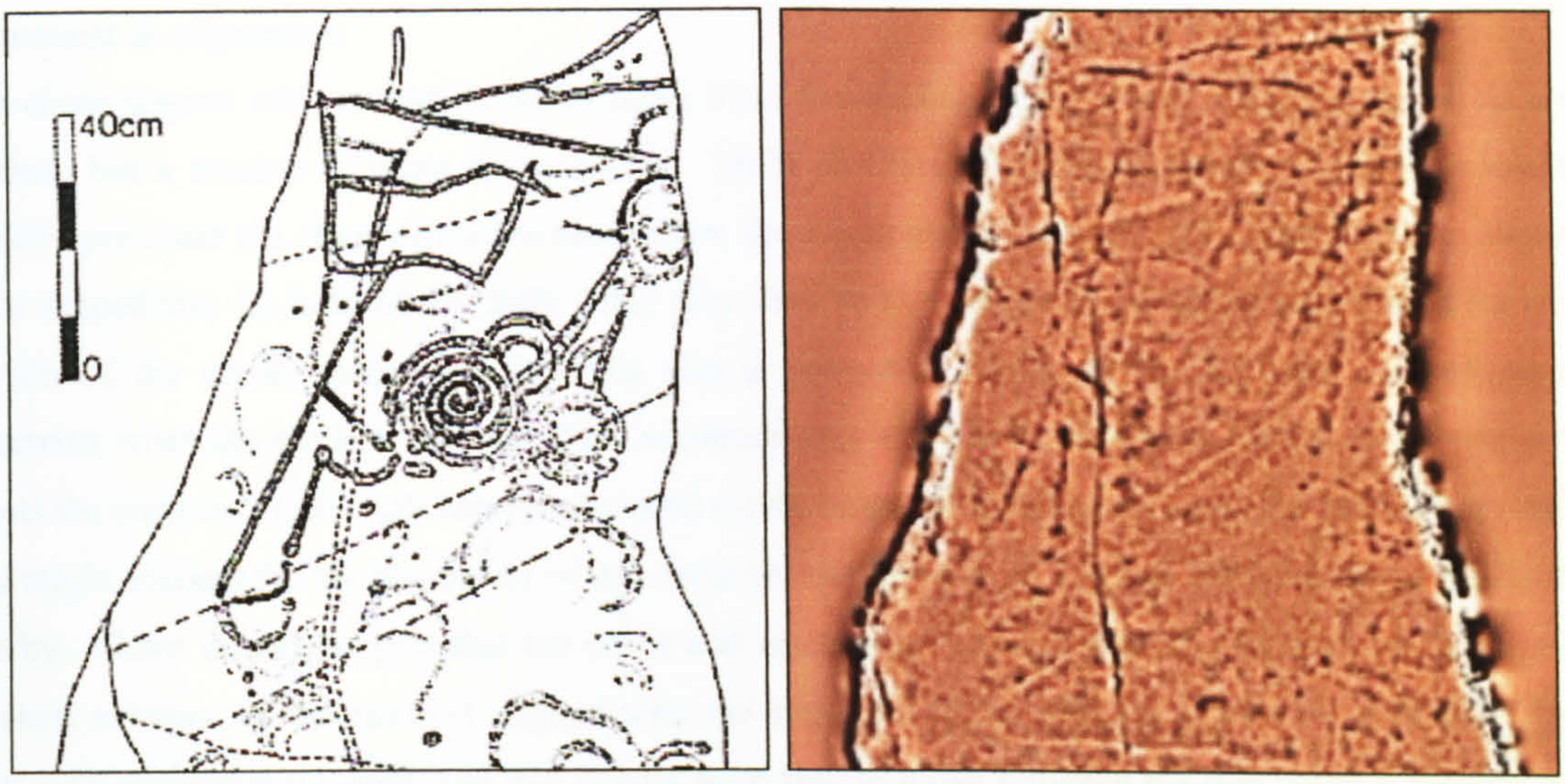


Figure 9-41: Upper part of Long Meg.
Left: Beckensall recording (2002: fig. 70); Right: laser scan (Díaz-Andreu et al 2005: fig.1) .

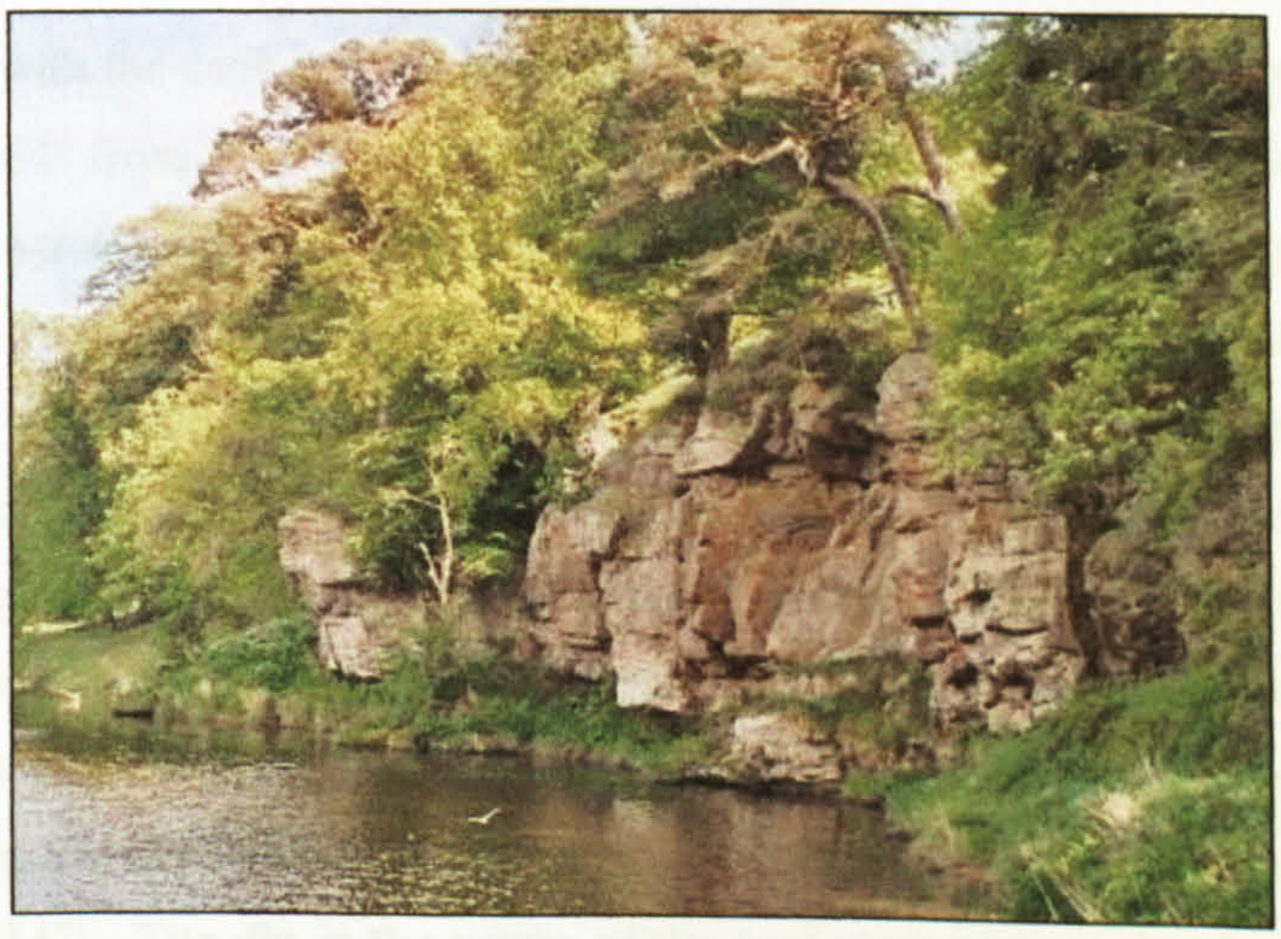


Figure 9-42: The decorated cliff above the River Coquet, Northumberland;
cf. Figure 9-39. Photo: Gus van Veen & Jan Brouwer.



Figure 9-43: Detail from Morwick; cf. Figure 9-15
Photo: Gus van Veen & Jan Brouwer.

Sequences & alignments

The chronological relationships between Long Meg, the enclosure, the ditch, and the stone circle are unclear, but a number of clues are available. Soffe & Clare (1988) argue that the large enclosure slightly pre-dates the stone circle because where the circle abuts the enclosure, several of the stones have slipped into the infill of the ditch. They also observe that relatively small stones are used for this section of the circle, suggesting that this was a deliberate choice to prevent any such slippage occurring when the circle was built. This sequence may explain the flattening of the circle where it meets the enclosure (although surveying would surely have produced a more circular plan if required) and might account for the placement of the circle on sloping ground when a flat terrace was available nearby. Other factors suggest that the circle and enclosure were in use at the same time: the north-western entrance of the circle is aligned with the southern entrance of the enclosure indicating that they were deliberately joined, and that people were able to move between the two without leaving the enclosed space.

Although Long Meg is invariably associated with the stone circle the relationship is unproven. The pillar is not aligned with the centre of the circle, nor with the south-west entrance (**Figure 9-44**). The decorated surface is 64° from True North, a full 20° from the bearing between the centre of the circle and the stone (**Figure 9-45**), which Burl (1994: 7)argues implies that Long Meg predates the circle. Yet relationships between the standing stone and her 'Daughters' have been noted. When viewed from the centre of the circle, Long Meg marks the mid-winter solstice. Frodsham (1996: 111) suggests the notch on the top may be significant in this respect, and argues for a symbolic association between the mid-winter sun and the spiral motifs, whilst acknowledging that this significance may not have been present when (in his view) the motifs were added to the river cliffs. In fact, topographical plans (Clare 2006) suggest a possible relationship between Long Meg and the enclosure adjacent the stone circle: the monolith stands on almost exactly the same alignment as the two entrances (**Figure 9-46**), (approximately 14°). The dip in the centre of the enclosure ensures that Long Meg is visible on the crest of the slope opposite when viewed from the far side. Although the carved face would not be visible from this angle, the notched top of the stone appears silhouetted against the sky (**Figure 9-47**).

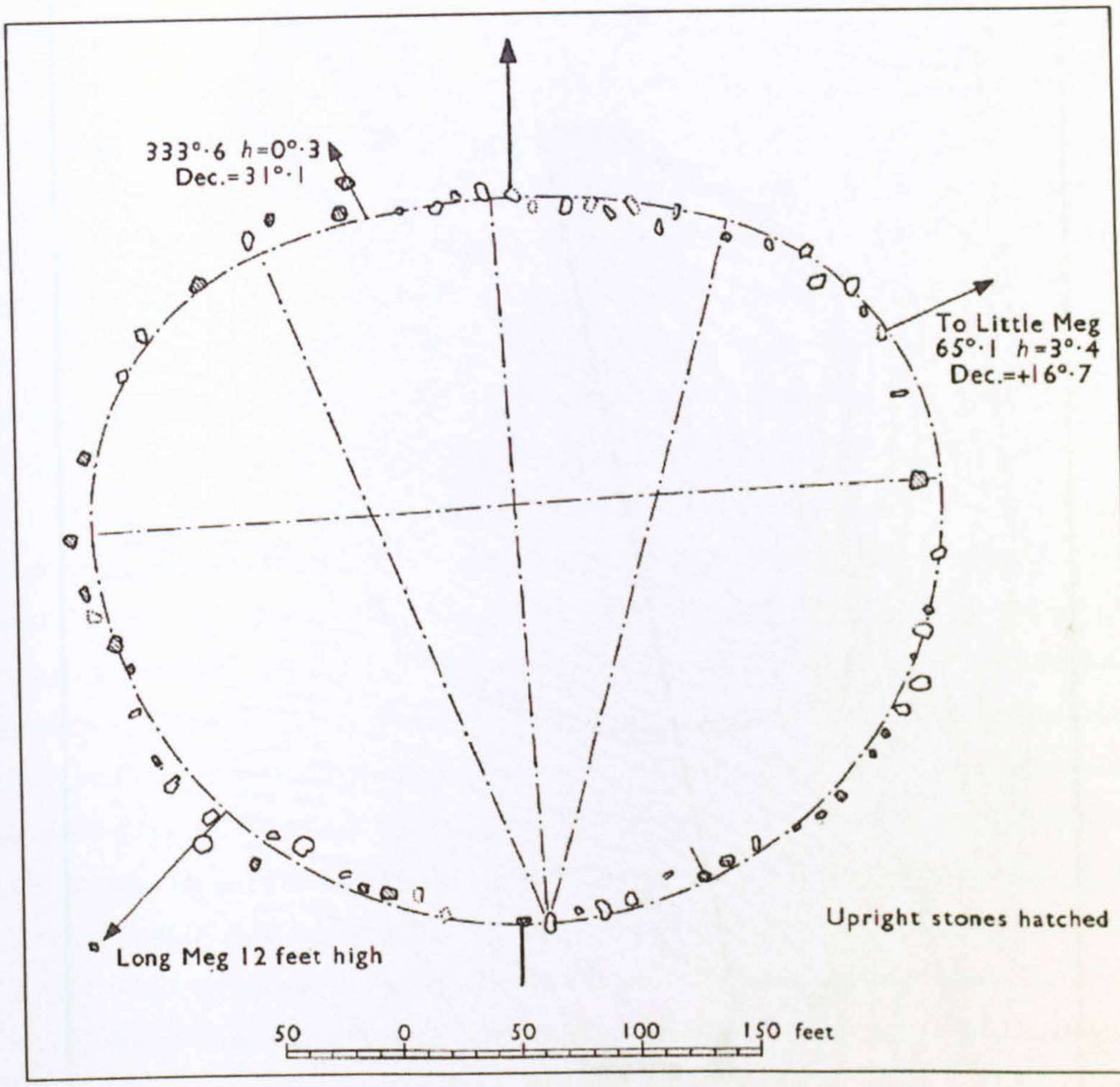


Figure 9-44 : Plan of Long Meg and Her Daughters by Thom (1967: 151) showing circle proposed construction and alignments.



Figure 9-45: Long Meg viewed through the entrance stones, showing oblique angle of carved face. Photo: Alice Simpson.

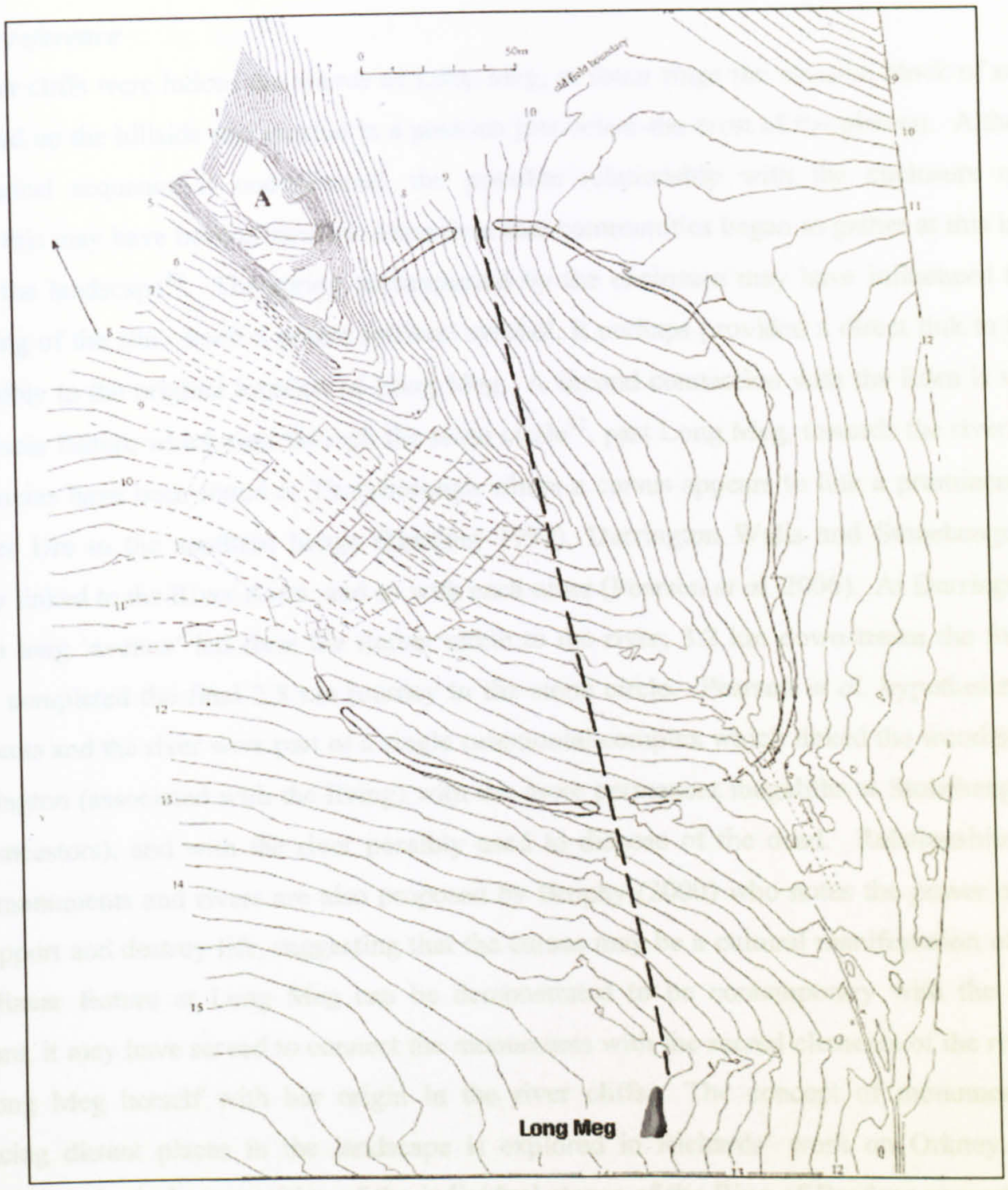


Figure 9-46: Topographical plan showing possible relationship between Long Meg and the enclosure. The bank of the stone circle is also visible. After Clare 2006: 9.

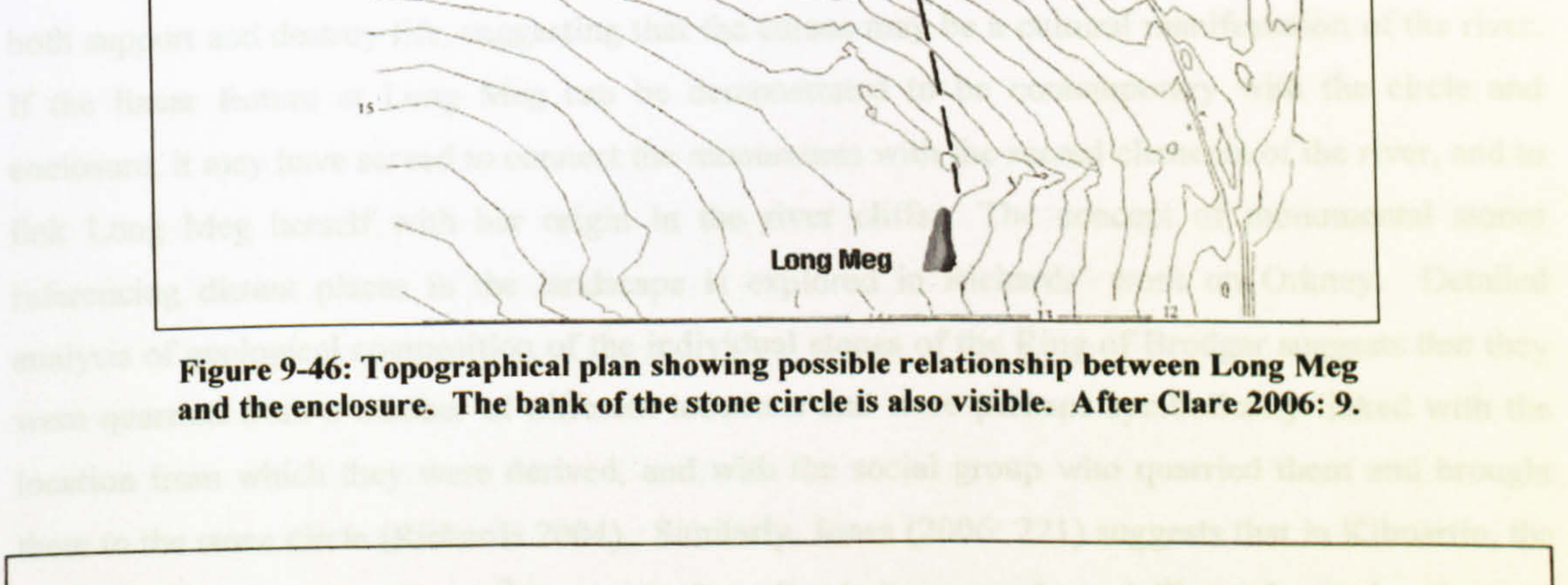


Figure 9-47: Long Meg as viewed from the 'passage' between the stone circle and the enclosure, with 'notched' top visible (see inset). Photos: Alice Simpson.

A remote reference

If the river cliffs were indeed the source of Long Meg, at some stage the massive block of sandstone was hauled up the hillside and erected in a position just below the crest of the plateau. Although the chronological sequence is unconfirmed, the possible relationship with the enclosure entrances suggests this may have been around the same time that communities began to gather at this important place in the landscape[10]. The spring encompassed by the enclosure may have influenced the exact positioning of the site. Itself a potent spiritual symbol, it perhaps provided a direct link to the river, and possibly to the original location of Long Meg. A second connection with the Eden is suggested by the linear feature which runs through the stone circle[11], past Long Meg, towards the river. Similar arrangements have been found at Thornborough where a cursus appears to link a prominent bend in the River Ure to the southern henge (Harding 1997). Durrington Walls and Stonehenge may be similarly linked to the River Avon, and so with each other (Pearson *et al.* 2006). At Durrington Walls a 100 m long 'avenue' led from the timber circle to the river; 3.2 km downstream the Stonehenge Avenue completed the final 2.8 km journey to the stone circle. Pearson *et al.* hypothesize that the monuments and the river were part of a single ceremonial complex which linked the wooden structure at Durrington (associated with the living) with the more permanent megaliths at Stonehenge (related to the ancestors), and with the river possibly used to dispose of the dead. Relationships between cursus monuments and rivers are also proposed by Brophy (2000) who notes the power of water to both support and destroy life, suggesting that the cursus may be a cultural manifestation of the river. If the linear feature at Long Meg can be demonstrated to be contemporary with the circle and enclosure, it may have served to connect the monuments with the sacred elements of the river, and to link Long Meg herself with her origin in the river cliffs. The concept of monumental stones referencing distant places in the landscape is explored in Richards' work on Orkney. Detailed analysis of geological composition of the individual stones of the Ring of Brodgar suggests that they were quarried from a number of different locations and were perhaps symbolically linked with the location from which they were derived, and with the social group who quarried them and brought them to the stone circle (Richards 2004). Similarly, Jones (2006: 221) suggests that in Kilmartin, the motifs added to standing stones[12] located in the valley bottom may have deliberately cited rock art on the valley sides from which they were quarried, whilst their mass and visibility demonstrated their distinction from the natural landscape. By placing Long Meg in a position overlooking the enclosure and the stone circle, perhaps the architects of these new monuments were seeking to bring the spiritual power of the river to the plateau.

Monumental journeys: communication and crossing points

In addition to being the possible origin of Long Meg (or at least the source of the stone used), and perhaps lending this area its initial sacred significance, the River Eden provided a natural route-way. It served seasonal journeys north and south between the coast and the limestone uplands, and longer journeys that followed the Eden-Ure route across the Pennines. Strong evidence for movement in this

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[10] And may also have been the reason for the building of the Longmeg Farm within the enclosure.
[11] Excavation is needed to clarify the relationship between the linear ditch and the stone circle.
[12] He argues that the position of motifs low down the stones indicates they were added during or after erection.

direction comes from the distribution of Group VI axes from Langdale, found in great numbers on Humberside (Manby 1965; Cummins 1979; Cummins 1980). The exact means by which the axes moved across the country is unclear: groups from the east coast may have traveled to Langdale to procure stone directly, and there is evidence for both hand-to-hand exchange and more organized, bulk trading (Chappell 1987). The role of monument complexes such as Long Meg, Mayburgh, and Thornborough is likely to have been both sacred and secular, and the location of the henges may have arisen from their convenient locations along extended journeys, perhaps where several routes converged. In addition to the route north-south along the Eden Valley, the presence of a possible crossing place over the Eden near Long Meg marks this as a focal point for groups traveling east-west across the Pennines via Stainmoor or the Tyne Gap, or northwards into the Scottish Lowlands. Noble (in press) argues that many 'monumental' or 'ceremonial' complexes were located on major routeways which formed the main networks of communication in prehistoric Britain, accounting for the presence of non-local references and influences. He cites Scottish examples from the Upper Clyde Valley in Lanarkshire, Dunragit in Wigtownshire, and the Kilmartin Valley in Argyll which all functioned as key nodes on 'monumental' journeys, located in positions where river and land routes converged. Similar observations are made for Cairn Meini in the Preseli Mountains in Southwest Wales. Here a monumental complex lies close to the source of the Stonehenge bluestones and on an important trade route linking Ireland with Wessex (Atkinson 1960: 174-5). In the same way, Sherratt (1996) points to the importance of a river-based network in the development of Wessex as a significant prehistoric focus, and in Ireland, Cooney (2000) notes that the Boyne Valley complex lies at the centre of important river route-ways. Noble (in press) argues that such sites may have begun life as "mundane places, yet nonetheless significant, places where people gathered", proposing that at significant transitional times monuments were built to maintain or rework social bonds and may also have served as a means to negotiate access and travel across the landscapes and seascapes of Neolithic Britain and Ireland. The Long Meg complex and nearby henges may have played an important role in maintaining such social networks and the 'monumental journeys' which resulted in the increasing contact between regions evident in the Later Neolithic.

Colour coding

Another element that may have added significance and religious potency to the area around Long Meg is the gypsum (hydrated calcium sulphate) deposit, which extends directly beneath the enclosure and stone circle. No practical uses for gypsum in British or Irish prehistory are known but it does appear to have had decorative and symbolic applications. Analysis of soil samples from the Thornborough henges has revealed the presence of small amounts of gypsum indicating that the earthen banks of the henges may have been covered in this bright white material (Thomas 1955: 436). Given the accessibility of gypsum at Long Meg, it seems highly probable that the banks of the enclosure would have been similarly coated, the contrast with the red sandstone of Long Meg and the dark grey of the 'Daughters' producing a striking visual impact.

The significance of colour in the monumental architecture of Britain and Ireland is well documented (see Lynch 1998; Jones & MacGregor 2002) with notable examples including the black (Newry granite) and white (quartz) wall at Newgrange (O'Kelly 1982; Meighan et al. 2003), and the red (sandstone) and white (quartz) Clyde tombs on Arran (Jones 1999). Red and white are also used at Knockroe in Co. Kilkenny (O'Sullivan 1996) and red, black and white in the construction of the cairns at Balnuaran of Clava (Trevarthen 2002). Lynch (1998) notes that in many cases, the recumbent stone in the Aberdeenshire circles is of a different colour to the surrounding uprights, and Macgregor (2002) observes that the flanking stones normally match each other in colour and texture, contrasting from the recumbent. The use of a single 'different' stone can also be seen in Cumbria at the Gamelands stone circle where a single limestone boulder is conspicuous amongst forty blocks of pink Shap granite, and at the Hardendale cairn circle which comprises eight boulders of Shap granite and a single block of red sandstone.

Similar complexity of design has been noted in the construction of Neolithic long mounds with a variety of materials used in a very specific order. At Beckhampton Road near Avebury, for example, the mound comprised brickearth (red), chalk gravel (white), turf (brown), marl (white) and Coomb rock (rusty brown), all placed separately into rectangular bays (Ashbee *et al.* 1979). Russell (2002: 31) argues that this segregation of materials was not simply a decorative device but reflected a desire to keep separate those geological materials derived from different parts of the landscape, and may even have reflected some form of social construct, emphasizing diversity as well as the collaborative effort required to construct the monument. The specific colours of the materials incorporated may also have been significant. The symbolic role of colours within early societies has been explored by many authors (see for example Gage *et al.* 1999; Jones & Bradley 1999; Taçon 1999). The historical and ethnographic record demonstrates that the creation, maintenance and negotiation of place and personal identity have involved the extensive use of symbolic constructions of colour, and the ritual use of coloured materials. The primary triad of black, white and red emerges as fundamental to these processes, although the symbolism attributed varies. Jones suggests that the red and white combination at Clava may refer to the red of flesh and blood, and the white of bones (a symbolism also explored by Tilley (1996) for the Scandinavian Neolithic), or may reflect the landscape itself, with white representing the northern mountains of granite and schist, and red reflecting the southern, sandstone lowlands of the island (Jones 1999). Such differentiation of geological regions does appear to have been important for prehistoric communities. Research by Díaz-Andreu (2001) in Levantine Spain revealed that clusters of rock paintings at Villar del Huomo and Albarraćin are found only on the striking red sandstone area known as the rodeno, with none present on the surrounding white limestone. A similar contrast in geology is present in north-east Cumbria where the Triassic red sandstone of the Eden Valley is surrounded by white calciferous limestone escarpments. No rock art is currently known on the limestone uplands, although if it were present in the prehistoric period it is unlikely that it would have survived the erosive forces that have since transformed these susceptible rocks.

The use of red sandstone in British rock art is unusual but where it occurs, carvings tend to be extensive, to have affinities with Boyne Valley motifs, and to be on vertical panels. Examples include the red sandstone cliffs at Morwick Mill in Northumberland, at Ballochmyle in Ayrshire and at Hawthorndon near Edinburgh. In Cumbria rock art is not found on red sandstone in the landscape but is present on several portable panels, some from cists and other cairn material (e.g. Little Meg, Glassonby) and others with no firm providence (e.g. Stagstones, Ruckcroft, Maryport, Thacka Dene). The symbolism associated with the colour red is certainly ancient (see Scarre 2002: 228-229) and can be variously related to blood and flesh, and hence to life, death, fertility, and birth. It has also been linked with fire and the sun, and it is perhaps not surprising that Long Meg stands on the alignment (223° 4' from the hypothetical centre of the stone circle) over which the midwinter sun would have set.

Evidence that the colour white had a ritual significance is also clear, with the role of substances such as quartz and chalk playing an important role in prehistoric (and later) ritual in Britain and Ireland. Quartz has been found in many monumental contexts (Darvill 2002) and has also recently been associated with a number of rock art panels, for example at Kilmartin, Argyll, (Jones 2006) and Drumhirril in Ireland (O'Connor 2003). Chalk was used to emphasize the great white southern henges of Avebury or Knowlton, and light-coloured stone is prominent in many burial and ceremonial contexts. The use of gypsum in prehistory is less understood but excavations at Thornborough revealed that, as well as being applied to the earthworks, gypsum was used to line a small oval pit with disarticulated and incomplete human remains typical of the 4th millennium (Harding & Johnson 2004). This would suggest that it held a potent symbolism analogous to quartz, and was not simply a decorative material used to make the henges appear more conspicuous. The exact nature of this symbolism is not clear. Like quartz, gypsum has light-reflecting properties and can appear luminous. Burl (2000: 226) speculates that moonlight caused quartz to glow when nocturnal ceremonies were performed at the recumbent stone circles; Bergh suggests "as a source of power, quartz can have been seen as giving the dead the power to undertake the journey to the other-world. Quartz as 'the stone of light', can also have symbolized life, an assurance of re-birth" (Bergh 1995: 153). Darvill (2002: 85-86) argues that the colour white may also relate to the moon, and to the period around harvest-time. Anthropological literature suggests many other symbolic associations ranging from purity to death (bones) or fertility (mother's milk or seminal fluid).

In summary, the Long Meg plateau can be associated with a number of socially and ritually significant elements, which perhaps drew people to this symbolically-charged place in the landscape. A key position at the node of several major route-ways, the powerful river cutting a gorge through striking red sandstone, a spring, and a substantial deposit of gypsum may all have contributed to the development of this centre of ceremonial, ritual and more mundane activities, and ensured that its significance endured well into the Bronze Age.

9.3.2 Continuity and appropriation: the power of place extended

The remaining rock art panels in the Eden Valley with a specific monumental association are found within the kerbs, cists and other material of burial cairns at Little Meg, Glassonby, Old Parks and Redhills. These funerary sites have been assigned to the Bronze Age, on both architectural and artefactual grounds. The presence of these later sites demonstrates that both the valley and the River Eden retained their significance as ideologies evolved into the 2nd millennium BC, but the carved panels incorporated within them cannot be assumed to be contemporary creations. They may in fact be much older, appropriated from other monuments or directly from the landscape, and re-used - perhaps repeatedly.

It could be argued that the above sites lie within an extended 'Long Meg' ritual landscape; Little Meg is only 500 m north-east of Long Meg and analysis by Thom (1967: 145) supports a connection between them. A line connecting the centre of the Long Meg circle to the summit of Fiends Fell passes directly through Little Meg. This alignment indicates the rising point of the sun on or around the two quarter days that fall midway between the spring equinox and summer solstice, and between the summer solstice and autumn equinox. Waterhouse (1985: 104) notes that Little Meg is too low to be visible from Long Meg, but suggests that the alignment could have operated in the opposite direction, to observe the setting point of the sun from Little Meg on the two quarter days. Continued use of the stone circle at Long Meg is also indicated by antiquarian reports of cairns within the circle (Camden 1695: 831) however this has not been demonstrated by excavation. The lost stone circle noted by Stukeley and many other parch mark features revealed by aerial photography may also be later developments. It is likely that the documented examples of burial cairns in the area provide only a hint of the original scale and extent of this monumental landscape. The rich soils of this part of the Eden Valley have been much disturbed by ploughing and it is fortunate that any earthworks or megaliths remain.

As revealed in Section 9.2, the architecture of each cairn containing carvings is very distinctive, and a variety of styles and contexts are represented. Although very different in nature, the cairns at Little Meg and Glassonby both have kerbs which include at least one decorated stone. At Glassonby the kerb was covered by the cobble mound and the carving is on the inner face of the stone. This contrasts with the decorated kerbstones surrounding monuments like Newgrange which were on public display around the external walls, but recalls a Late Neolithic cairn at Millin Bay, Ulster (Collins et al. 1955) (**Figure 9-50**). This large oval cairn was enclosed by a contiguous façade of twenty-eight slabs, the majority of which were carved on the internal face; the boulders which form the oval Glassonby kerb are also closely spaced, but much smaller and with more irregular shapes than the Millin Bay slabs. They include a great variety of different types of stone including sandstones, grits and granite, described in detail by Collingwood. Whether this reflects a deliberate attempt to incorporate references to a diverse landscape (see above), or was for decorative purposes is unclear but the result must have appeared very colourful. Amid the 'red sandstone', 'gray cobble', and 'brecciated greenstone' described by Collingwood are a single stone of 'hard white sandstone'

and one of 'blue whin'. These are positioned opposite each other in the circle (**Figure 9-48**). Both the use of colour and the presence of the carvings might indicate that the kerb was intended to be visible and may have been left uncovered for some time.

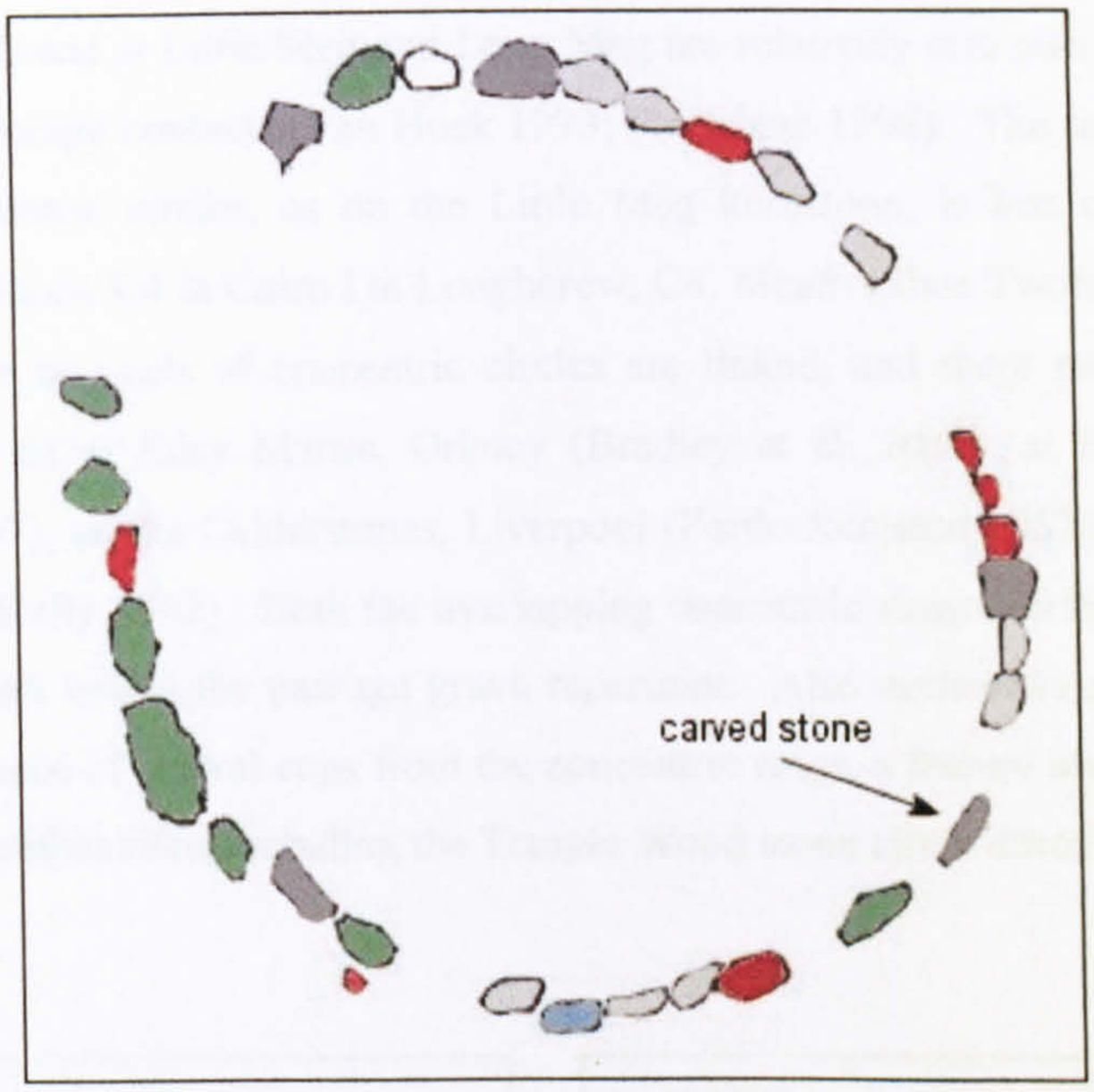


Figure 9-48: Glassonby kerb, with colours based on stone types described by Collingwood (1901: 297-298).

The kerb at Little Meg is very different, having a much smaller diameter (5.86 m by 4.72 m) and being composed of only eleven, much larger boulders (the tallest is 1.3 m). Like Glassonby this was once covered by a mound of earth and cobbles, so the kerbstones would not have been visible. Whether this was always the case is uncertain: it is possible that the cobble mounds were a later addition to both sites and represented a final 'closing' ritual. This type of modification of burial sites over time has been demonstrated by excavation at another monument with carved stones: Temple Wood in Argyll (Scott 1989). Two of the twenty-two original uprights at the Temple Wood stone circle are decorated. Stone #9 has two faint concentric rings on its external face, and stone #11 has an elaborate 'horned' triple-spiral linked across the internal and eastern faces of the stone. These stones replaced an earlier ring of timber posts. At a later stage, the gaps between the stones were filled with horizontal slabs, one of which has several cup marks on its outer face. Finally, the interior was used for burial, initially in cists which had their own kerbs and were covered by individual mounds of cobbles. Cremations were also added, before the entire site was covered in cobbles, possibly burying the standing stones of the original circle. This continuing re-development and re-invention, possibly for several different ceremonial or religious purposes, may also have occurred in the Eden Valley, the cobble mounds representing only the final phase.

Whether the stones used to construct the kerbstones were assembled specifically for this purpose or appropriated from earlier sites is unclear. The large boulders at Little Meg are of similar proportions

to those of Long Meg's Daughters in the neighbouring field and it is possible they were 'borrowed', perhaps even deliberately selected to extend the power of the earlier stone circle. The motifs on the kerbstones at Little Meg and Glassonby certainly hint at much earlier origins, having similar, finely executed motifs with strong affinities to passage grave art, and with the Copt Howe panel (p 297). Spirals such as those found at Little Meg and Long Meg are relatively rare outside megalithic art but do occur in some landscape contexts (Van Hoek 1993; Frodsham 1996). The composite motif with a spiral linked to concentric circles, as on the Little Meg kerbstone, is less common even within megalithic contexts. Stone C4 in Cairn I at Loughcrew, Co. Meath (Shee Twohig 1981: fig. 218) has a similar motif where two sets of concentric circles are linked, and there are examples of linked spirals in megalithic art at Eday Manse, Orkney (Bradley et al. 2001), at Barclodiad y Gawres, Anglesey (Lynch 1967), on the Calderstones, Liverpool (Forde-Johnston 1957) and at Newgrange in the Boyne Valley (O'Kelly 1982). Both the overlapping concentric rings and the parallel chevrons at Glassonby are common within the passage grave repertoire. Also noticeable on the both Cumbrian kerbstones is the absence of central cups from the concentric rings, a feature also seen at Copt Howe, and prevalent in megalithic sites, including the Temple Wood stone circle described above.

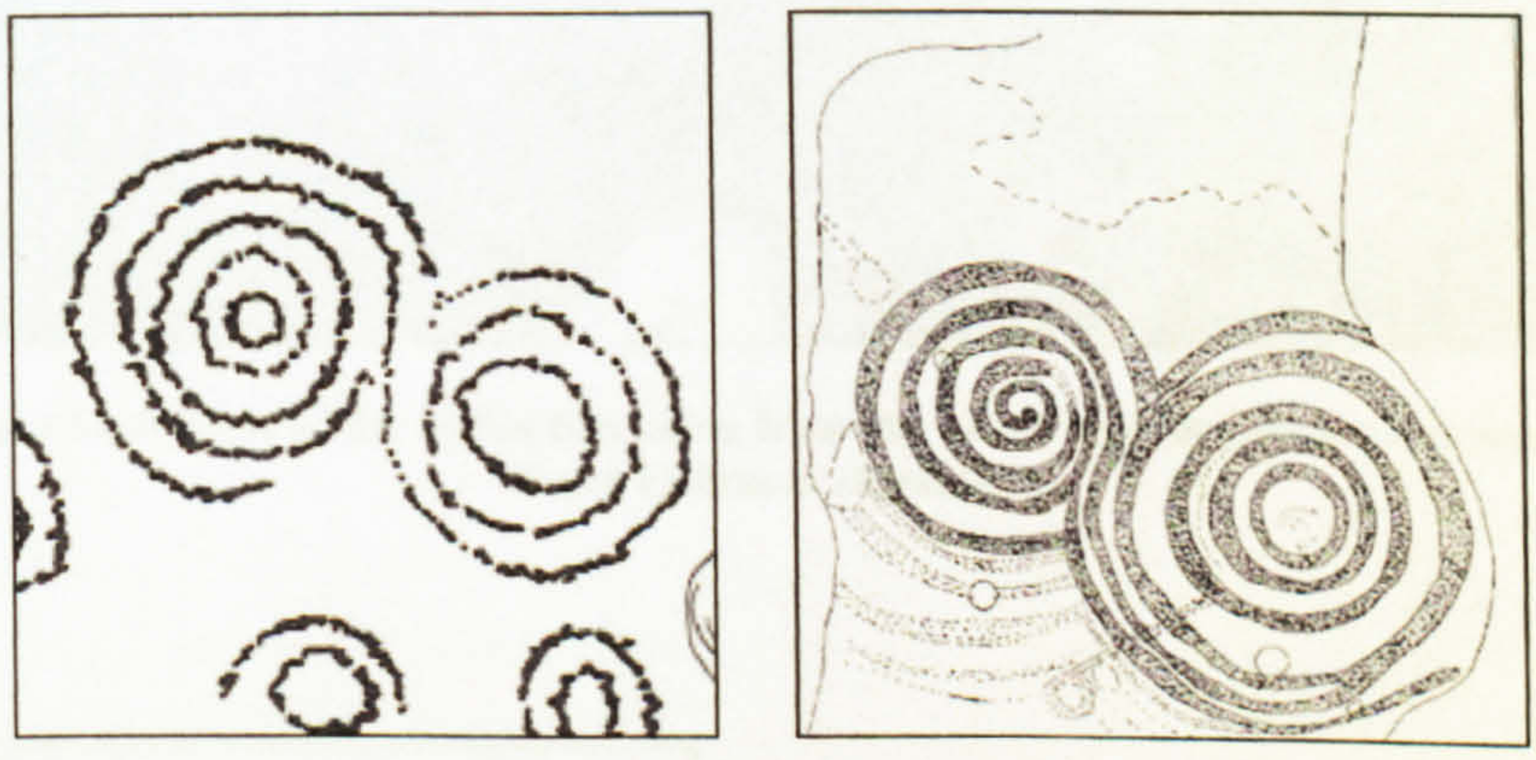


Figure 9-49: Comparison between motif on stone C4 (left) in Cairn I. Loughcrew (after Shee Twohig 1981: fig. 218) and Little Meg kerbstone (after Beckensall 2002: fig. 92)

The third decorated cairn in the Eden group is at Old Parks, Kirkoswald. Although dated to the Bronze Age by the underlying cremation cemetery and secondary deposits of incense cups, beads and a cremation urn, the architecture of the cairn and the style of decoration have clear affinities with the Late Neolithic cairn at Millin Bay mentioned above, an observation first made by Piggott (Collins et al. 1955). The slab façade at Millin Bay is similar in construction to the slab wall which divided the Old Parks cairn and the unusual meandering carvings also appear similar to those on the three Old Parks slabs (**Figure 9-50** and **Figure 9-51**). Here again, several phases may be surmised with the monument left uncovered until a final 'closing' of the cemetery. The original report notes that "The markings continue into the ground and show that they were upon the stones before they were set up in their present positions" (Ferguson 1895). This suggests that the slabs were re-used, possibly from an earlier monument. Their original context and meaning may have been lost yet their significance was clearly recognised and respected.



Figure 9-50: View of the Millin Bay cairn from the north on completion of excavation. From Collins *et al*, plate 1.

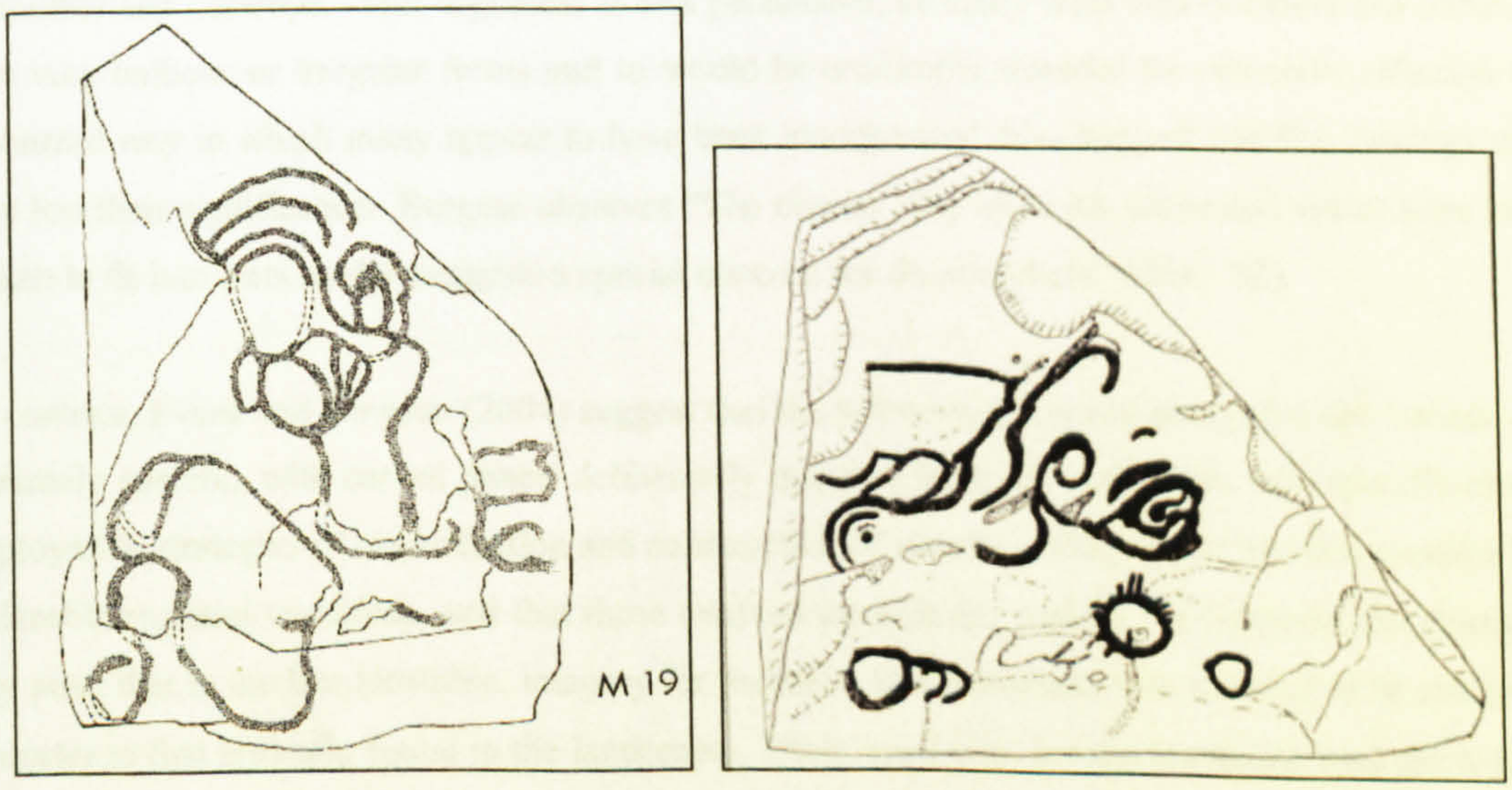


Figure 9-51: Comparison between decoration on stone M19 (left) from the inner stone setting at Millin Bay (After Collins *et al*, fig.12*)* and stone #3 (right) from Old Parks cairn in the Eden Valley (After Beckensall, 2002: fig. 113)

A second monumental context is that of cist stones – the slabs which were used to create the walls and covers for the burials enclosed by the cairns. In the Eden valley examples include Little Meg and Redhills, but it is possible that the portable slabs from Stagstones Farm and Ruckcroft were also from cists. The motifs on these stones are very different in appearance to the carvings on the kerbstones of the same cairns, both in form and execution. The grooves which form the spirals, rings and chevrons on the kerbstones are finely executed, with evenly spaced rings and close to circular motifs with very small peck marks used. On all of the cist stones, larger peck marks are clearly visible and grooves are wider, less circular and less evenly spaced. Although this variation may be due to the hardness of the rock (soft sandstone vs. hard whinstone) or type of tool used, this cannot also account for the different designs applied. The cup-and-ring motifs on the cist stones are very typical of the art commonly found in landscape contexts in Britain and Ireland, and the possibility must be considered that this is where they originated. The stones from the Little Meg cist show little evidence of weathering but on one panel the motifs appear truncated at the outer edges suggesting that the stone was shaped to fit the cist, and that this may not have been its earliest context. The extent to which earlier decorated stones were re-used in this way is much debated, with Burgess (1991) arguing that there is little evidence to suggest that any of the known cist stones were specially carved for inclusion in the monument. He states "The frequent occurrence of cup and cup-and-ring stones in Early Bronze Age cairns...is a snare and a delusion which offends against a fundamental archaeological law" (1991: 21). He goes on to argue that the carved stones in Bronze Age cists and cairns held little significance to the communities who views them as convenient building material, or gathered them into piles to clear the land for farming. This hypothesis is supported by the relatively small number of single grave burials which do contain carved stones – Burgess estimates less than 1% (ibid.: 21), which, he notes, is no more than the proportion of Iron Age souterrains which also contain decorated slabs. The preferential use of carved stones within the cist, specifically with the decoration facing inwards, is explained by the selection of stones with flat surfaces, since carvings tended to be placed on the smoother, flat sides of boulder and outcrops. This argument is less persuasive, as many inscribed boulders and outcrops have very bulbous or irregular forms and so would be unsuitable material for cist slabs although the haphazard way in which many appear to have been incorporated does suggest that the carvings may have lost their significance. Burgess observes "The clumsy way in which decorated stones have been broken to fit into cists hardly suggests a special concern for the ornament" (ibid.: 22).

By contrast, Evans and Dowson (2004) suggest that the selection of carved stones for cist burials was extremely specific, with carved panels deliberately quarried from the landscape, with specific motifs employed in strategies of re-production and construction of identity. They argue that this practice had noticeable regional variations, and that these evolved through the period. In Cumbria, for example, they posit that in the late Neolithic, imagery for inclusion in monuments was selected to be similar in character to that typically found in the landscape. Their 'type-site' for the landscape rock art is Copt Howe, and they cite the kerbstones at Glassonby and Little Meg as evidence of this connection. Later, they argue, this changes, and the designs incorporated into burial cists are deliberately chosen to contrast with the motifs in the landscape, hence the use of stones with simple cup-and-ring designs.

In the Cumbrian case, however, this thesis is flawed: the authors fail to take into account the discoveries of cup-marked outcrops in the central Lake District which make the Copt Howe panels far from typical, and also cite panels at several monumental sites (Castlerigg, Hardendale, Moor Divock, Shap) shown by the present study to be natural, geological features. Further, this explanation does not help to explain the juxtaposition of the two carved stones in the unusual monument found on the North Yorkshire Moors (see **Figure 2-11** on page 28). Here, one stone was decorated in the passage grave style and a second stone, set almost adjacent, was carved with simple cups and grooves reflecting the surrounding landscape tradition.

At Redhills, which has the only other cist stone found *in situ* in Cumbria, none of the motifs are truncated and the design appears to fit the shape of the stone. From the illustration (which is all that remains), the carved surface appears flat but crossed by natural fissures and is unlikely to be a freshly quarried surface. Taylor (1883) describes the opposite side of the slab as "rough and irregular" but it is not possible to determine whether the stone was quarried from an outcrop. The peck-marks appeared "fresh" increasing the probability that this slab was decorated shortly before its use in the burial, and may be a rare example of purpose-made burial art. If so, might this represent an attempt to imitate examples of motifs in landscape settings, in order to continue the practice of enclosing 'ancestral' art within the burial? Similar respect for earlier carvings can be seen at the Hunterheugh rock art site in Northumberland where 'crude' versions of older, more weather cup-and-ring motifs were added to a fresh rock surface, possibly to replace those lost following the quarrying of part of the outcrop (Waddington *et al.* 2005).

For megalithic material, the concept of appropriation and re-use of is well-documented, with a prime example being that of Knowth in the Boyne Valley (Eogan 1998) where excavation has revealed that a group of fifteen distinctly decorated stones are positioned such that their decorated surfaces are either wholly or partially hidden. This leads Eogan to propose the existence of a substantial and elaborate tomb pre-dating both Knowth and Newgrange, from which the stones were recycled into the new monuments. This dismantling of pre-existing structures and incorporation of 'old' megaliths into new monuments has been recognised at several sites in Brittany, where standing stones were incorporated into subsequently constructed passage graves (Le Roux 1985; Le Roux 1992), a process suggested to reflect the 'iconclastic rage' of the builders towards the earlier structures (L'Helgouac'h *et al.* 1997).

The carved stones of the Eden Valley were deployed in many different contexts and may have had different degrees of significance to the various societies who carved them, encountered them, dismantled them and covered them with earth and cobbles. From public, ceremonial images to personal, private tributes to ancestors or spirits, or even randomly inscribed building material, the panels in this small group of carved stones potentially meant very different things to each individual within each generation that encountered them.

9.3.3 Return to Eden

The terraces above the eastern bank of the River Eden were clearly a focus for ritual activity over an extended period during prehistory. The absence of occupational evidence in the immediate vicinity may be a product of taphonomy, but may equally point to a seasonal role for this area as a temporary focal point for groups converging from a wide geographical zone, far beyond any 'local' catchment. The strategic location of the Long Meg group of monuments between the Lake District Fells and the Pennines, close to a crossing point over the Eden and on a number of route-ways makes this an obvious choice for groups congregating, perhaps at the close of expeditions into the central fells for stone axes, or into the limestone uplands for hunting. The powerful river, the red sandstone gorge, the gypsum deposit and the spring may all have added spiritual significance, perhaps even inspiring a regular 'pilgrimage' as suggested by Harding (2000) for the Thornborough Henge complex. These elements ensured that this special place in the landscape retained its power for many generations, Whether this was continuous cannot be determined but the examples of potentially re-used stones in later cairns demonstrates that groups adopting Bronze Age funerary rituals were familiar with more ancient monuments and chose to incorporate the stones, some decorated, into their own constructions. Bradley notes: "There is no doubt that people would have been aware of the built fabric of their own past in the landscape...they would have been forced to use these scraps of ancient material culture to understand their place in the world" (Bradley 2002: 13). By appropriating these megaliths and decorated panels they were perhaps attempting to extend the agency of earlier sites to the new monuments, bringing with the stones a link with both their place of origin (an earlier monument, outcrop or cliff face) and, just as importantly, with the ancestors who carved them. In this way, the sacred power of the area was enhanced and extended, and collective memories and identities establishes and affirmed.

Chapter 10
Reflections and Projections

Research outcomes, interpretations, and future directions.

The least questioned assumptions are often the most questionable.

Paul Broca

The 'curious marks' described by Simpson in 1866 continue to defy interpretation but in the last decade a number of positive steps have been made towards reaching that goal. A greater appreciation within the academic world of the potential value of rock art to more established studies of material culture, monumental architecture and landscape has seen research into British and Irish petroglyphs integrated into wider reaching projects, with a new emphasis on excavation and fieldwork replacing desk-based analyses of motifs. 'Softer' theoretical approaches have been supported by improved technology for mapping, measuring and analysing, sometimes resulting in unexpected results, challenging past assumptions and generating new research questions. Alongside these developments has been a growing involvement by the Heritage sector, with increased awareness of the need to record, protect and manage British rock art on behalf of communities who continue to be captivated by these mysterious motifs. Advances in technology have provided some answers with techniques such as photogrammetry and laser scanning replacing more subjective methods of recording but a key development has been the advent of the Internet which has allowed previously disparate individual amateur enthusiasts to become virtual research communities, sharing information and ideas via dedicated websites. Just as Simpson's 'call to arms' inspired the identification of new rock art sites in the late nineteenth century, so these online discussion groups have begun to generate further discoveries with contributors capturing images and storing them in searchable, accessible repositories.

In this positive environment of an expanding dataset, advancing technology and an increasing range of theoretical paradigms on which to draw, there is surely cause for optimism that the enigma of the 'curious marks' will one day be unravelled. My own research project aimed to contribute to this ultimate objective by addressing a specific region of Britain which demonstrated the potential to yield new insights into a set of prehistoric carvings in a range of contexts very different from those in other areas with rock art clusters. The county of Cumbria provided a unique background to the study, with diverse geology and landscapes, and a prehistoric heritage which, although somewhat neglected, includes several distinctive monuments and is dominated by the stone axe quarries at its core. Cumbria also lies in a pivotal geographical position on the eastern shore of the Irish Sea, sandwiched between Argyll and Dumfriesshire to the north, Wales and Anglesey to the south, and the Isle of Man and Ireland to the west. All these Irish Sea communities had rock art traditions and their influence is clearly detectable in the Cumbrian corpus, as well as in monumental architecture and other forms of material culture. Yet Cumbria also borders North Yorkshire, Durham and Northumberland across the

Pennines to the east, all with equally strong rock carving traditions, and potential connections to the east are implied by the large concentrations of Type VI stone axes found in this direction.

The challenge then, was to explore the Cumbrian rock art corpus in terms of its relationships with the landscape, with other rock art sites, and with known archaeological features and material culture, whilst at the same time considering its place within the context of more distant traditions, and within a general chronological framework for rock art which is far from established. This final chapter reviews how that challenge was tackled and the issues encountered, summarises the key findings and interpretations, and highlights potential themes for future research.

10.1 Establishing the database: measuring cups

The first objective of the research project was to establish an accurate and reliable database, and to assess the degree to which that reflected either the surviving record, or the original prehistoric distribution and context of rock art in the study area. The starting point was published material, a major reference being Beckensall's *Prehistoric Rock Art in Cumbria* (2002). First-hand accounts were also reviewed, mostly within the *Transactions of the Cumberland and Westmorland Antiquarian and Archaeology Society*, and relevant *Sites and Monuments Records* were also consulted. The panels described in these sources were evaluated in the field (or museum) where practicable, and from photographs or text where this was not possible.

10.1.1 Natural or not?

From an early stage it became clear that a number of published 'rock art' panels were in fact more likely to have geological origins, and some 'motifs' could not be detected at all. The vagaries of geology, style, and weathering meant that it was sometimes impossible to assess with 100 percent certainty whether cups were natural, enhanced by carving, or made entirely by human hand. Although these distinctions may have been irrelevant to prehistoric minds, if such examples were not directly associated with other archaeological material they could not be assumed to have significance. The ability to distinguish between natural and 'non-natural' features gained importance when promotion of the project to local amateur groups resulted in several new reports, many involving isolated 'cup-marks'. The challenge of verifying these new panels, together with the difficulties encountered with the published material, prompted the creation of a scoring system for 'cups' which could be applied to each example on an equal footing. By this means a comparative score could be obtained which indicated the likelihood that the cup in question was carved. The system was developed from measurements and observations of a relatively small sample of cup-marks in Cumbria (assumed to be carved) and would benefit from an expanded statistical analysis, incorporating metrics for cups on a variety of stone types, similar data for panels elsewhere in Britain, and comparative measurements for natural cupules. Refinements notwithstanding, the scoring system provides a

useful method by which possible cups may be objectively assessed and compared by individual researchers.

Of the 75 panels in the original dataset, only 37 were confirmed as very likely to be rock art, with a further 24 unresolved; 14 were excluded from the analysis. These figures clearly demonstrate the difficulties of dealing with data collected and recorded independently over many centuries by largely amateur protagonists, and highlight the need for close scrutiny of individual panels prior to any form of overall analysis. Similar rates of attrition resulted from the inspection of rock art panels in Northumberland and Durham when known panels were re-recorded for the English Heritage project (although several new panels were encountered in the process!). This process of verification and standardised recording is essential to ensure that an accurate and reliable database is available, which can be analysed with greater confidence.

10.1.2 New Discoveries

Once the known panels had been evaluated the next stage was to establish whether the revised dataset was representative of the study area. Although no systematic survey had been undertaken in the region, two major new sites identified just prior to the present study suggested more may await discovery. A two-stranded approach was implemented: targeted field surveys based on predictive models were complemented by promotion of the subject via illustrated talks and direct contacts with web site contributors and local archaeologists to raise awareness and encourage the reporting of new finds. The latter produced a substantial response and additional planned promotional activities were curtailed due to limited resources for following up reports of new panels. Several potential panels could not be investigated within the time-frame of the project. At the time of writing a further 12 potential panels await evaluation and the list continues to grow with new examples being reported on a regular basis. Of the 28 new panels investigated, 7 proved very likely to be prehistoric rock art. Although many others were determined to be geological this does not necessarily make them of less interest and all were recorded if only briefly. If the resources needed to support the checking and recording of new panels were available, then further publicity via local media and involvement of key groups such as climbing and rambling clubs, Young Farmers, and geological societies, might yield many more finds.

The complementary strand of investigation involved two field surveys which were based on very different predictive models. The first drew on rock art traditions of north-eastern Britain where rock art clusters tend to be located in similar geographical positions, on elevated ground with expansive views, and where panels are often found in association with other prehistoric features such as cairn fields. Examples in locations of this nature had been recorded on the eastern margins of Cumbria, but none were known to the west of the Eden Valley. A survey area was selected on the eastern edge of the Lake District, in a location with the required landscape characteristics. Moor Divock appeared a good candidate for rock art, being an open tract of land at the correct relative elevation, having excellent views and significant evidence of prehistoric activity, with two rock art panels already

recorded. Sadly, no new panels were identified and the previously identified examples proved extremely doubtful.[1] The survey appears to indicate that the tradition of cup-and-ring art on boulders in elevated positions did not extend westwards beyond the Eden Valley, although further surveys would be necessary to confirm this, and given the rate at which new panels continue to be identified it would be unwise to base assumptions on a single small survey.

The second survey model was based on several recently recorded sites within the central valleys of the Lake District. This new group of 'outcrop' panels (and possibly one boulder in Langdale) share many characteristics with regard to their position in the landscape, lying on or just above the valley floor at the foot of a natural route-way into the central mountains, being associated with a major lake and close to a small beck, and possibly also having a relationship with a dominant mountain. The two survey sites at Thirlmere and Ambleside failed to produce new rock art, although at Thirlmere a number of outcrops and boulders were found to have distinctive geological features, and at Ambleside two possible cup-marks have since been reported, but score poorly on the evaluation system and cannot be accepted with confidence. Although this result was disappointing, a new panel at Grasmere, reported by a member of the public, matched all the characteristics of the model. This site was not discovered during the survey as the area was excluded due to the presence of the town, although in retrospect it would seem that the ideal site for a carved outcrop is similar to that for a settlement. It may be that other substantial outcrops have survived within built-up areas, possibly within private gardens or parks and so may be worth inspecting. It is worth noting that the majority of panels in this group are on land which has at some stage been developed for purposes other than farming (gardens, parks, campsite) and such places must not be overlooked. Since such sites are low-lying and often accessible to the general public or situated within private residences, increased local awareness might lead to new finds as well as improved preservation of known panels. The Grasmere find confirmed the basic premise, and further work based on the model may yield new examples.

10.1.3 Recording Strategies

The new panels were recorded using a variety of methods, including traditional wax rubbing and tracing, and the newer technique of photogrammetry. Although the choice of recording methodology must be based on a variety of factors, for the 'flat' panels recorded during this project, tracing was found to provide a relatively rapid, cheap and convenient means of obtaining a reasonably objective and fairly accurate recording which allows for the inclusion of natural features on the panel surface. The tracing was used to create a scaled drawing in a more clement environment away from the rock surface (which was invariably windy!), and was complemented by photography and written observations. Photogrammetry is undoubtedly the best alternatively to the costly but highly accurate and objective process of laser scanning for the production of a three-dimensional digital model, but although digital photography is now relatively inexpensive, specialised processing software is not yet

[1] This perhaps illustrates a drawback to carrying out different strands of fieldwork in parallel to avoid repcated site visits. Had the 'rock art' been assessed prior to the survey perhaps a different area would have been selected, although in all other respects this was a very suitable location.

so accessible. This does not prevent images being captured and stored for future manipulation, and this was the approach adopted in the present project. Unfortunately no amount of high technology can now record the panels at Patterdale and in particular those at Green Rigg. These are Scheduled Monuments and the decision has been made by English Heritage that they should be allowed to accumulate moss and vegetation. Only one recording has been made of the main panel - by Beckensall using wax rubbing - and several groups of motifs on peripheral areas have not been recorded at all, many of them now covered by the creeping green carpet. Although Beckensall's drawing is detailed it is a subjective record and this important site would benefit from the application of accurate, objective, high resolution recording technology to allow more precise examination of the relationships between natural, carved and enhanced features.

The revised and expanded dataset currently resides in a simple Excel spreadsheet (reproduced in the Appendix as individual forms). It is intended that this will be reformatted to create a relational database with a web-based search interface, and made available via the Internet. It is also hoped that the data can be incorporated into the database to be produced by the English Heritage NDRAP Project if this is expanded beyond the pilot stage.

10.2 Interpreting the data: contexts, connections and chronology

The amendments to the original dataset combined with the new discoveries resulted in a substantial change to the overall pattern of context and geographical distribution of rock art in Cumbria, with less monumental art and more landscape art than previously recognised. The map is no longer dominated by the kerbs and cist stones of the Eden Valley, and carved panels amongst the hard volcanic outcrops of the central valleys are not exceptional. The discoveries in the Central Lake District demonstrated that the panels in Patterdale were not unique, and it is now possible to say that they are in fact typical of a tradition of rock carving in the Cumbrian landscape which tends to occur on glacially smoothed volcanic outcrops located on or just above the valley bottom, near to lakes, and with simple cup-marks predominating. The new distribution maps were analysed with regard to various elements of the natural landscape, and in relation to known archaeological finds and features. Land divisions defined by the Countryside Agency – *Character Areas* – were used to aid the analysis, these being more appropriate than modern political boundaries. As a result, a number of discrete geographical groupings of panels were identified, each having distinct characteristics in terms of location, panel type, context and style of motifs.

10.2.1 Connections: within Cumbria and beyond

A small group of sites in the northern and eastern fringes of the county were considered to fit best within the north-eastern corpus of rock art, being typical of the 'cup-and-ring' tradition both in style and in their open, elevated locations. Indeed, some appear to connect well with sites recorded only a few kilometres away on the other side of the modern county boundary. No similar examples were

identified to the west of the Eden Valley. A second set of panels was identified around the middle reaches of the Eden Valley Character Area associated with a variety of monuments. This group can be subdivided into carvings on substantial megaliths – kerbstones, standing stones and a slab wall, all of which have strong passage grave affinities; a second group of decorated slabs and cobbles which are included in cist burials, and have more traditional cup-and-ring style motifs; and a third series of portable slabs with no provenance but likely to have originated from burial cairns. A major cluster of panels with monumental associations is located on a terrace above the red sandstone gorge on the eastern bank of the Eden near Little Salkeld; other finds are concentrated around the town of Penrith, possibly uncovered as a result of urban development and relatively high population levels, but perhaps also related to the fact that the town lies at the confluence of three major rivers, the Eden, Lowther and Eamont, with two major henge monuments nearby.

A third group within the region comprises the cup-marked outcrops already described, which appear confined to the High Fells area, and demonstrate that the hard volcanic stone of the Lake District massif was no barrier to carving. Analysis of topography demonstrated a clear preference for low-lying positions close to the head or tail of long glacial finger-lakes around the periphery of the central mountains. Analysis of SMR records showed little connection with any prehistoric site-type or period although the position of the axe production sites in the central fells could suggest an indirect association with this activity. One site at the heart of the study area had very similar landscape characteristics to the outcrop panels but in other respects was unique, having striking affinities with passage grave art, and consisting of a complex composition on a vertical panel. The carved boulders at Copt Howe in the valley of Great Langdale are unparalleled in Cumbria, and indeed in Britain and Ireland. Although no archaeological features or finds are known in the immediate vicinity of the carved boulders, their position on this valley route into the heart of the stone quarries suggests connections with communities who visited the area to procure stone.

Although the Cumbrian panels can be divided into the distinct geographical and contextual subsets described above they also demonstrate a number of stylistic similarities across these groups which may reflect a greater overall cohesion than is initially apparent. As noted above, the main carved panel at Copt Howe has a number of stylistic elements reminiscent of Boyne Valley carvings, including complex concentric rings, chevrons, diffuse pecking and rings with no central cup. Similar passage grave motifs are seen on several stones in monumental contexts in the Eden Valley, and on one of the portable stones from Maryport on the west coast. The penannular motif is also common in Cumbria, figuring on several portable slabs in the Eden Valley, but also on an outcrop at Leonard's Cragg to the east, and on a large unprovenanced boulder at Dean in the west of the county.

10.2.2 Detailed encounters and chronology

Three of the groups of rock art identified in the initial analysis were investigated in greater detail in order to better understand the inspirations and motivations of the communities who carved and encountered them.

Lakeland landmarks

The cup-marked panels in the central valleys were considered from a number of perspectives in an attempt to determine why these particular outcrops were selected. Their position in the landscape was clearly a unifying characteristic but other aspects of their overall shape and surface texture were also examined. None of the outcrops was found to be close to archaeological features or finds of any period, but analysis of digital elevation models revealed that all were located in accessible situations on possible natural route-ways which converged on the central plateau – the site of the stone quarries exploited during the Neolithic period. An overlay of the panel locations onto a plan of ancient tracks revealed a close match with nodes of routes through the passes of the central fells. The position of the carved outcrops close to the lakes which radiate from the mountains is also suggestive of a relationship with movement either via water or along the less densely-wooded shoreline, the valleys providing extended views to and from the destination. It was suggested that these journeys may have been seasonal expeditions undertaken by communities living in coastal areas or in the eastern valleys and limestone escarpments, perhaps visiting the stone quarries. The outcrops were argued to be located at convenient positions along these routes, on the periphery of the central dome, perhaps marking the last major camp before the mountains were tackled, and close to resources from lakes, becks and surrounding marshes.

Yet there are many outcrops in the volcanic foothills of the Lake District so why were these particular ones carved? One hypothesis explored was their relationship with a dominant mountain. Although difficult to demonstrate in the central fells, where peaks are abundant, in at least three cases a possible relationship was noted. At Green Rigg and at Low Park the carved outcrop appears to mirror the mountain behind, and at Broadgate Park the striking anthropomorphic rock formation on the summit of Helm Crag can be clearly seen from the outcrop.

The nature of the outcrops themselves was also considered. The Low Park outcrop stands out for its striking form, projecting from the summit of a small hillock like a giant breaking wave, its formative layers folded and thrust upwards. The surface texture is also unusual, with ripples appearing almost molten. Although a long way from the sea, this outcrop may have been viewed as a petrified wave, and the subject of mythological speculation or reverence. Analysis of surface features here, and at Broadgate Park and Green Rigg, also provided insight into the way in which these outcrops were regarded when they were first encountered. At Green Rigg natural fissures are incorporated into the design, some enhanced to create a grid-pattern into which cups are placed. On all three panels cups appear to be focussed around points where a number of fissures cross to create a 'star burst', although some are positioned between the fissures and some directly on them.

The axe factor

One site from the original dataset does remain unique in Cumbria: the carved boulders at Copt Howe. Given the location of this site on a key valley route into the main axe production sites in the Langdale

Pikes a potential relationship with quarrying activity is not a radical leap, and the observations at the summer solstice appear to confirm a link between the site and the mountains, if not the quarries themselves. The site was shown to have many other monumental characteristics including a sense of enclosed space with passage-ways formed by the group of large boulders, and it was suggested that its initial adoption may have been prompted by the megalithic proportions of the boulders coupled with their striking geological cupules, which may have been construed as the remains of a carved ancestral monument. The solstitial sunset over Harrison Stickle was surely observed by communities visiting the valley in the summer months, and must have added greater spiritual resonance. A parallel for this phenomenon can be found in County Mayo where the carved Boheh Stone marks a similar vantage point for the sun setting over the sacred mountain of Croagh Patrick. The passage grave style motifs on the main panel also indicate western influences. There appear to be several 'hands' represented and closer analysis of three-dimensional models may enable individual contributions to be identified and provide a time-depth to the overall composition.

It is clear that Copt Howe is an important site which demands further investigation. The geophysical surveys and excavations at Drumhirril, Torbhlaran and Hunterheugh have demonstrated the wealth of information to be obtained by probing below the surface. Similar work at the Copt Howe site may yield much more, and would at least reveal whether the carvings continue below the present turf line which, given the down-wash of material which has built up against the panel, must be considerably higher than in the Neolithic. The site is scheduled, and managed by the National Trust with permissive access for climbers who use the site for the sport of 'bouldering'. The natural cupules make useful foot and hand holds; and the surface of both carved boulders are regularly smudged with chalk. This invaluable piece of archaeological heritage surely warrants better treatment in the future.

East of Eden

The final strand of the study turned to the monuments of the Eden Valley in the east of the county. Detailed analysis of the area around the main cluster of decorated monuments revealed a number of possible reasons that this place attained (and retained) a high level of ritual significance. The river was shown to be the focus of several major route-ways, and the red sandstone gorge through which the Eden cuts immediately below the monuments was also highlighted. It was suggested that Long Meg may have begun life within the rock face, originally resembling the decorated river cliffs at Morwick in Northumberland. By moving the stone up to the terrace, communities may have been attempting to appropriate the power of the river for their new gathering site. A final factor may have been the presence of a large deposit of gypsum directly beneath the Long Meg ritual complex and the enclosure earthworks may have been covered with this white decorative and ritual material, as were the Thornborough Henges at the other end of the Eden-Ure route-way. The relative chronologies of the elements which make up the ritual landscape at Long Meg have yet to be unravelled but it can be argued that the Long Meg monolith may be related more closely to the large enclosure than to the stone circle, judging from the alignment of the stone with the two entrances into the enclosure.

The fact that later, Bronze Age funerary monuments were built close to the earlier enclosure and stone circle is testament to the enduring power of this area on the east bank of the Eden, and close inspection revealed that at least some of the carved stones may have had much earlier origins than the monuments. The kerbstones at Glassonby and Little Meg both have strong affinities with Boyne Valley motifs and the unusual wall slabs at Old Parks are very similar to those at the Neolithic cairn at Millin Bay in Ulster. By contrast, the carved stones from the cist at Little Meg, and the cist cover at Redhills are in the 'cup-and-ring' tradition, but the presence of truncated motifs on one of the Little Meg stones suggests they may have been procured from elsewhere and re-used. This may have been a deliberate choice, with carvings selected and quarried for the purpose from landscape contexts or earlier monuments as proposed by Evans and Dowson (2004), or, as Burgess (1991) argues, may have been an arbitrary process with carved stones seen primarily as a convenient building resource. Re-use of carved slabs would certainly help to explain the many instances of overlap between the passage grave and cup-and-ring styles, for example at Newgrange where motifs in the cup-and-ring style often occur on the 'hidden' surfaces (O'Kelly 1982), and also in the undated monument on Fylingdales Moor in North Yorkshire where examples of both styles are set side by side. The redeployment of stones from earlier monuments is recognised at Knowth (Eogan 1998) but there is less evidence for similar practices in later, single grave burials. Had it survived, the Redhills cist cover may have helped to clarify this question as, from illustrations and descriptions, it appears to have been created especially for the cist. If so, this might suggest that the cup-and-ring tradition did indeed extend into the Bronze Age, although the significance of the motifs and their role in monumental architecture had clearly evolved.

Changing times, changing places

The three studies can be drawn together into a very loose chronological story which centres on the period during which the valuable source of stone in the central mountains made the study area an important ritual and 'industrial' centre. Current radiocarbon dates suggest that axe production may have begun some time before 4000 BC (Bradley & Edmonds 1993) with local expeditions, probably by coastal communities following rivers back to their mountain sources and finding bands of tuff. As these journeys became more targeted and more regular it is likely that particular routes were established, defined by the extreme terrain and making full use of the lakes where possible. Perhaps the early prospectors who established these routes also carved the cup-marks onto striking outcrops at preferred stopping places.

As new sources of tuff were identified and the demand for stone axes increased, more groups ventured into the high fells, perhaps also moving their animals to summer pastures, and exploiting fresh hunting grounds. Communities which, by the later 4th millennium BC, were becoming established in the Eden Valley and limestone uplands, began making the annual journey westwards and it may have been these groups who, approaching from the east via the valley of Great Langdale, first encountered the 'natural monument' at Copt Howe, recognising in the boulders elements of the

new megalithic structures beginning to develop in their own areas, where influences from both east and west were combining in henges, stone circles, stone avenues and enclosures. These groups incorporated their knowledge of solar events in their monumental architecture and may well have recognised that, from the vantage point of Copt Howe, they could have determined the exact day of the summer solstice, allowing them to plan their journeys and to prepare for autumn. Ritual was also a key part of life and this 'monument', from which the sun appeared to 'touch' the mountain summit, may have been the site of pre-quarrying rituals to appease the 'stone gods' as evident in ethnographic studies. It may have marked a threshold on the approach into the upper part of the valley.

As the stone-axe business 'boomed', new groups arrived to take advantage of this resource and working practices changed. Flake assemblages indicate that production became more organised with increased output and minimised loss of raw material. The distribution of petrologically distinct hammerstones indicates the development of individual quarries controlled by particular groups. By this stage groups may have travelled many miles to the quarries, across the Pennines or from the north following rivers and lakes through the wooded valleys towards the distant mountain peaks. The seasonality of these journeys resulted in greater numbers converging at specific times and places in the landscape, and it is likely that the Long Meg area and the henges at Penrith were cosmopolitan arenas used not just by local groups but by a diverse array of people from further a-field, all with stories, experiences and information to trade alongside their stone axes and other commodities. But by the beginning of the Bronze Age, new technologies signalled the end of the Langdale Axe and different customs began to emerge. Despite changing ideologies, however, new burial monuments with single cists were built close to the older ceremonial sites and carved stones, perhaps from older monuments were incorporated. Blocks were also quarried, possibly from outcrops carved in earlier times, and shaped to make cist stones. Eventually the cists and the kerbs were covered by piles of river cobbles, and the carvings hidden. The religious power of ancestral places was transferred and extended to the recently dead, but the imagery, its influence and its meaning were also buried and effectively removed from circulation for several millennia.

10.3 Closing comments: curiouser and curiouser?

The curious markings recently discovered upon Long Meg, at Maughanby, at Shap, and at other places, have added new interest to these ancient monuments, and may enable us eventually to learn their history....That the mystery will be cleared up, I fully believe, though it may happen that those who first essay an explanation of these strange characters or curious symbols, or seek to assign to them a date or a meaning will...err from the truth...Whatever the meaning of these curious marks, and whatever they may symbolize...we shall do well – each in his own locality – to keep his eyes open and examine these upright stones – whether in a circle or standing alone – to see if we can find any such marks upon them.

Read at the inaugural meeting of the Cumberland and Westmorland Antiquarian and Archaeological Society (CWAAS), in Penrith on Sept. 11th 1866 by the Reverend James Simpson, Vicar of Kirkby Stephen

This research project set out to take a broad view of the rock art of Cumbria with the benefit of tools, technologies and knowledge not dreamt of by the Reverend Simpson in 1866. The results have been both surprising and exciting with new examples, 'geological' features and undetectable motifs combining to produce a very different dataset, and a picture of distribution markedly changed from that recognised at the outset of this project. Such an outcome may not have surprised the Reverend Simpson given his predictions that those seeking to understand the carvings would inevitably "err from the truth". The panel at Copt Howe would certainly have intrigued him, as would the cup-marked outcrops of the central valleys, especially since the stone quarries were yet to be identified. He would no doubt have been gratified, however, that his appeal had at last been heeded, even though much of the "mystery" is yet to be cleared up. There is no doubt that as knowledge of rock art accumulates, more questions arise, and the "strange characters" become 'curiouser and curiouser', but the new tools, techniques and approaches explored in this study have the potential to re-create detailed contexts for rock art panels, and to build a multi-dimensional picture which is both more subtle and more dynamic than Simpson could ever have imagined.

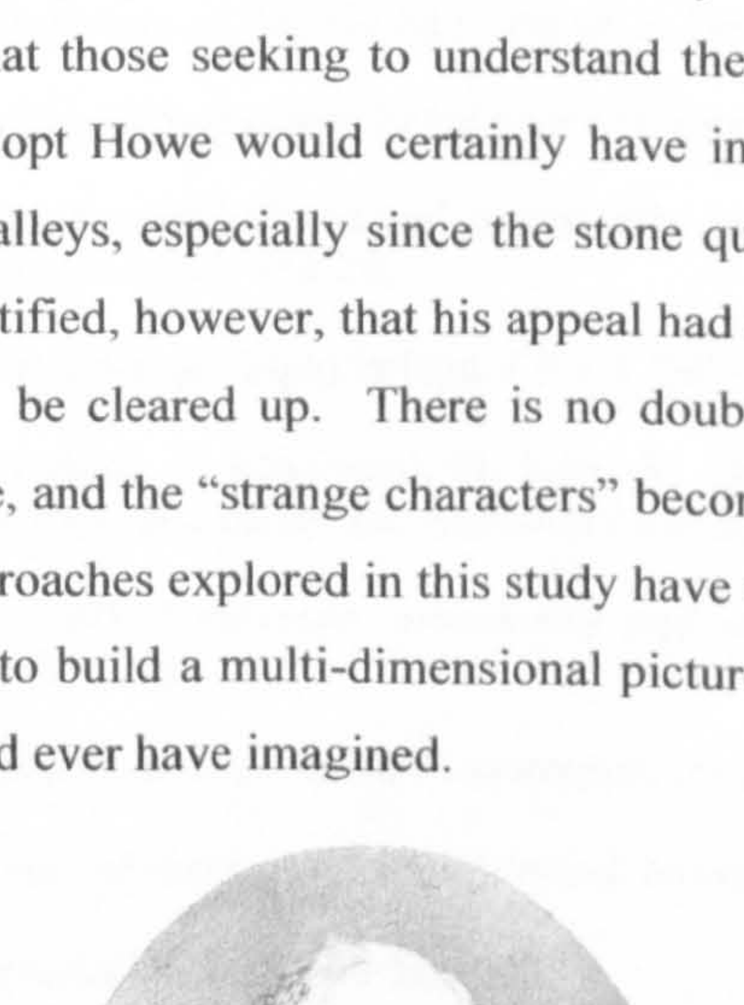


Figure 10-1: James Simpson. LL.D., F.S.A., Hon Canon of Carlisle. President of the Cumberland and Westmorland Antiquarian and Archaeological Society.

Bibliography

CW1, CW2, CW3 = First, second and third series of the Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society.

Abramson, P., 2000. A re-examination of a Viking age burial at Beacon Hill, Aspatria. *CW2* 100, 79-88.

Allen, J. R., 1882. Notes on some undescribed stones with cup-markings in Scotland. *Proceedings of the Society of Antiquaries of Scotland* 16, 79-143.

Allen, M. R. & J. Gardiner, 2002. A sense of time. Cultural markers in the Mesolithic of southern England, in *Inscribed landscapes: marking and making place,* eds. B. David and M. Wilson. Honolulu: University of Hawaii Press, 139-153.

Anati, E., 2004. The art of beginnings, in *The Valcamonica Symposiums 2001 and 2002,* eds. U. Bertilsson and L. McDermott eds. National Heritage Board of Sweden, 8-18.

Anderson, J., 1886. *Scotland in pagan times : the Bronze and Stone ages.* Edinburgh: D. Douglas.

Aris, D., 1999. No axe left unturned *The Westmorland Gazette.* Kendal, 19.

Ashbee, P., I. Smith and J. Evans, 1979. Excavations of three long barrows near Avebury, Wiltshire. *Proceedings of the Prehistoric Society* 45: 207-300.

Atkinson, R. J. C., 1960. *Stonehenge.* Harmondsworth: Penguin Books in association with Hamish Hamilton.

Bahn, P., P. Pettit & S. Ripoll, 2004. Discovery of Palaeolithic cave art in Britain. *Antiquity,* 227-231.

Bailey, J. B., 1888. Notes on cup and ring-marked stones found near Maryport. *CW1* 9, 435-438.

Barnatt, J. & M. Edmonds, 2002. Places apart? Caves and monuments in Neolithic and Earlier Bronze Age Britain. *Cambridge Archaeological Journal 12*(1), 113-29.

Barnes, J. A., 1904. Ancient corduroy roads near Gilpin Bridge. *CW2* 4, 207-10.

Barnett, T., A. Chalmers, M. Díaz-Andreu, P. Longhurst, G. Ellis, K. Sharpe & I. Trinks, 2005. 3D Laser scanning for recording and monitoring rock art erosion. *International Newsletter on Rock Art* 41, 25-28.

Barrett, J., M. Green, & R. Bradley, 1991. *Landscape, monuments and society: the prehistory of Cranborne Chase.* Cambridge: Cambridge University Press.

Bayley, D. & N. Roycroft, 2003. Megalithic art discovered in souterrain. *Archaeology Ireland,* 17(3), 4-4.

Beckensall, S., 1974. *The prehistoric carved rocks of Northumberland.* Newcastle Upon Tyne: Frank Graham.

Beckensall, S., 1999. *British prehistoric rock art.* Stroud: Tempus.

Beckensall, S., 2001. *Prehistoric rock art in Northumberland.* Stroud: Tempus.

Beckensall, S., 2002. *Prehistoric rock art in Cumbria.* Stroud: Tempus.

Beckensall, S. & P. Frodsham, 1998. Questions of chronology: the case for Bronze Age rock art in northern England. *Northern Archaeology* 15/16, 51-69.

Beckensall, S. & T. Laurie, 1998. *Prehistoric rock art of County Durham, Swaledale and Wensleydale.* Durham: Durham County Books.

Bednarik, G., 1991. Standardization in rock art terminology, in *Rock art and posterity - Conserving, managing and recording rock art,* eds. C. Pearson & B. K. Swartz Jr. Melbourne: Occasional AURA publication No. 4, 116-118.

Bednarik, R. G., 1994. The oldest art in the world. *Espacio, Tiempo y Forma. Prehistoria y Arqueología* 7, 75-74.

Bednarik, R. G., 1995. Rock art preservation in Siberia, in *Preservation of rock art,* eds. A. Thorn & J. Brunet. Melbourne: *Australian Rock Art Research Association,* 21-7.

Bednarik, R. G., 1996. The cupules on Chief's Rock, Auditorium Cave, Bhimbetka. *Artefact* 19, 63-72.

Bednarik, R. G. & K. Seshadri, 1995. Digital colour re-constitution in rock art photography. *Rock Art Research* 121, 42-51.

Bell, J., J.-P. Jerome, P. Sawyer, V. Magar & N. S. Price, 1996. Stereophotogrammetric recording of rock art at the Cueva de El Ratón, Baja California, Mexico, *ICOM Committee for Conservation. 11th Triennial meeting reprints.* Edinburgh: James & James, 454-457.

Bender, B., 1993. *Landscape, politics and perspectives.* Oxford: Berg.

Bentley, R. A., L. Chikhi, & T. D. Price, 2002. The Neolithic transition in Europe: comparing broad scale genetic and local scale isotopic evidence. *Antiquity* 77(295), 63-66.

Bergh, S., 1995. *Landscape of the monuments: a study of the passage tombs in the Cúil Irra region (Co. Sligo, Ireland).* Stockholm: Riksantikvarieämbetet.

Bertilsson, U., 2001. Rockcare Tanum Laboratory of cultural heritage. *International Newsletter on Rock Art* 28, 18-25.

Bewley, R., 1986. Ewanrigg - a Bronze Age cremation cemetery. *Popular Archaeology* 72, 36-42.

Bewley, R., 1993. Survey and excavation at a crop-mark enclosure, Plasketlands, Cumbria. *CW2* 93, 1-18.

Bewley, R. H., I. H. Longworth, S. Brown, J. P. Huntley & G. Varndell, 1992. Excavation of a Bronze Age cemetery at Ewanrigg, Maryport, Cumbria. *Proceedings of the Prehistoric Society* 58, 325-354.

Blamires, G. M., 2006. *Guidestones to the Great Langdale Axe Factories.* Carlisle: Gabriel Blamires.

Bonsall, J. C., 1981. The coastal factor in the Mesolithic settlement of North West England, in *Mesolithikum in Europa*, ed. B. Gramsch. Potsdam: Veroffentlichungen des Museums fur Ur Fruhgeschichte, 451-472.

Boone, L. E. & D. L. Kurtz, 1999. *Contemporary marketing, 1999.* Fort Worth: Dryden Press.

Borgna, C. G., 1973. Studio metodico-cronologico del repertorio di sculture preistoriche della zona di Fentrans-Galizia, Espangna. *Cuardernos de Estudios Gallegos* 28, 90-102.

Boughey, K. & E. Vickerman, 2003. *Prehistoric rock art of the West Riding. Cup-and-ring-marked rocks of the valleys of the Aire, Wharfe, Washburn and Nidd.* Leeds: West Yorkshire Archaeological Services.

Bracken, G. & P. Wayman, 1992. A Neolithic or Bronze Age alignment for Croagh Patrick. *Journal of the Westport Historical Society* 19, 1-11.

Bradley, R., 1990. *The passage of arms: an archaeological analysis of prehistoric hoards and votive deposits.* Cambridge: Cambridge University Press.

Bradley, R., 1991. Rock art and the perception of landscape. *Cambridge Archaeological Journal* 11, 77-101.

Bradley, R., 1993. *Altering the Earth: the origins of monuments in Britain and Continental Europe.* (The Rhind Lectures 1991-1992). Edinburgh: Society of Antiquaries of Scotland.

Bradley, R., 1994. Symbols and signposts: understanding the prehistoric petroglyphs of the British Isles, in *The ancient mind,* eds. C. Renfrew & E. Zubrow. Cambridge: Cambridge University Press, 95-106.

Bradley, R., 1995. Making sense of prehistoric rock art. *British Archaeology* 9, 8-9.

Bradley, R., 1995. Rock carvings and decorated monuments in the British Isles, in *Perceiving rock art; social and political perspectives,* eds. K. Helskog & B. Olsen. Oslo: Institutete for sammelignende kulturforsakning, 107-129.

Bradley, R., 1997. *Rock art and the prehistory of Atlantic Europe: Signing the land.* London: Routledge.

Bradley, R., 1998a. Incised motifs in the passage-graves at Quoyness and Cuween, Orkney. *Antiquity* 72, 387-90.

Bradley, R., 1998b. Ruined buildings, ruined stones: enclosures, tombs and natural places in the Neolithic of south-west England. *World Archaeology* 301, 13-22.

Bradley, R., 1998c. *The significance of monuments. On the shaping of human experience in Neolithic and Bronze Age Europe.* London: Routledge.

Bradley, R., 2000. *An archaeology of natural places.* London: Routledge.

Bradley, R., 2002. *The past in prehistoric societies.* London: Routledge.

Bradley, R., 2003. A life less ordinary: the ritualization of the domestic sphere in Later Prehistoric Europe. *Cambridge Archaeological Journal* 131, 5-23.

Bradley, R., 2007. *The prehistory of Britain and Ireland.* Cambridge, Cambridge University Press.

Bradley, R., F. Criado Boado & R. Fábregas Valcarce, 1994. Rock art research as landscape archaeology: a pilot study in Galicia, north-west Spain. *World Archaeology* 253, 374-390.

Bradley, R. & M. R. Edmonds, 1993. *Interpreting the axe trade: production and exchange in Neolithic Britain.* Cambridge: Cambridge University Press.

Bradley, R. & S. Ford 1986. The siting of Neolithic stone quarries - experimental archaeology at Great Langdale, Cumbria. *Oxford Journal of Archaeology* 52, 123-128.

Bradley, R., J. Harding, S. Rippon & M. Matthews 1993a. A field method for investigating the distribution of rock art. *Oxford Journal of Archaeology* 122, 129-143.

Bradley, R., J. Harding & J. Mathews 1993b. The siting of prehistoric rock art in Galloway, south-west Scotland. *Proceedings of the Prehistoric Society* 59, 269-283.

Bradley, R., A. Jones, L. Nordenborg Myhre & H. Sackett 2002. Sailing through stone: carved ships and the rock face at Revheim, Southwest Norway. *Norwegian Archaeological Review* 352, 109-118.

Bradley, R., T. Phillips, C. Richards & M. Webb 2001. Decorating the houses of the dead: incised and pecked motifs in Orkney chambered tombs. *Cambridge Archaeological Journal* 11, 45-67.

Brennan, M., 1980. *The stars and the stones: ancient art and astronomy in Ireland.* London: Thames and Hudson.

Brennand, M., 2005. *Archaeological research framework for the North West region.* Research Strategy.

Breuil, H. 1934. Presidential address. *Proceedings of the Prehistoric Society of East Anglia* 7, 289-322.

Brophy, K., 2000. Water coincidence? Cursus monuments and rivers, in *Neolithic Orkney in its European context,* ed. A. Ritchie. Cambridge: McDonald Institute for Archaeological Research University of Cambridge, 59-70.

Brophy, K., 2004. The searchers: the quest for causewayed enclosures in the Irish Sea area, in *The Neolithic of the Irish Sea: materiality and traditions of practice,* eds. V. Cummings & C. Fowler. Oxford: Oxbow, 37-45.

Brown, M., 2002. The Howe Robin story: an unusual enclosure on Crosby Ravensworth Fell, in *Enclosures in Neolithic Europe,* eds. P. Topping & G. Varndell. Oxford: Oxbow Books, 111-114.

Brown, P. & B. Brown 1999. Previously unrecorded prehistoric rock carvings at Copt Howe, Chapel Stile, Great Langdale, Cumbria. *Archaeology North* 16, 16-18.

Brown, P. M. & G. Chappell, 2005. *Prehistoric rock art in the North York Moors.* Stroud: Tempus.

Bruce, J. C., 1869. *Incised markings on stone found in the county of Northumberland, Argyllshire and other places.* Private circulation.

Bruen Olsen, A. & S. Alasker, 1984. Greenstone and diabase utilisation in the Stone Age of Western Norway. *Norwegian Archaeological Review* 17, 71-103.

Bryan, P., 2004. 3D laser scanning: new questions of observation. *Conservation bulletin* 45(Spring), 6-8.

Burgess, C., 1991. The chronology of cup-and-ring marks in Britain and Ireland. *Northern Archaeology* 10, 21-26.

Burgess, C. B., 1972. Goatscrag: a Bronze age rock shelter cemetery in North Northumberland. With notes on other rock shelters and crag lines in the region. *Archaeologia Aeliana* (4th series) 50, 15-69.

Burl, A., 1976. *The stone circles of the British Isles.* New Haven and London: Yale University Press.

Burl, A., 1993. *From Carnac to Callanish.* New Haven and London: Yale University Press.

Burl, A., 2000. *The stone circles of Britain, Ireland and Brittany.* New Haven and London: Yale University Press.

Burl, H. A. W., 1994. The stone circle of Long Meg and Her Daughters, Little Salkeld. *CW2* 94, 1-12.

Burton, J., 1984. Quarrying in a tribal society. *World Archaeology* 162, 234-247.

Camden, W., 1695. *Britannia.* London.

Carr, D. 2003. Geology and the distribution of cock art: a study of Derbyshire. Unpublished MA dissertation, Department of Archaeology, Durham.

Carty, A., 2007. 3D laser scanning at Church Hole, Creswell Crags, in *Palaeolithic cave art at Creswell Crags in European context,* eds. P. Pettitt, P. Bahn & S. Ripoll. Oxford: Oxford University Press.

Casson, L., 1994. *Ships and seafaring in ancient times.* London: British Museum Press.

Chandler, J. H., J. G. Fryer & H. T. Kneist, 2005. Non-invasive three-dimensional recording of Aboriginal rock art using cost-effective digital photogrammetry. *Rock Art Research* 222, 119-130.

Chappell, S., 1987. *Stone axe morphology and distribution in Neolithic Britain.* (British Archaeology Reports British Series 177.) Oxford: BAR. 2 vols.

Cherry, J., 1982. Sea cliff erosion at Drigg, Cumbria: Evidence of Prehistoric Habitation. *CW2* 82, 1-6.

Cherry, J., 2001. Artefacts found during the re-siting of the B.N.F.L. pipeline at Drigg and more evidence from sea-cliff erosion. *CW3* 1, 192-194.

Cherry, J. & J. P. Cherry, 1984. Archaeological survey of Crosby Ravensworth Fell: occupational evidence. *CW2* 84, 19-30.

Cherry, J. & J. P. Cherry, 1986. Prehistoric habitation sites in West Cumbria: part IV, the Eskmeals area. *CW2* 86, 1-18.

Cherry, J. & J. P. Cherry, 1987. Prehistoric habitation sites in West Cumbria: part V, Eskmeals to Haverigg. *CW2* 87, 1-10.

Cherry, J. & P. Cherry, 1985. Prehistoric habitation sites in West Cumbria: part III, the Drigg and Ravenglass areas. *CW2* 85, 1-10.

Cherry, J. & P. Cherry, 1984. Prehistoric habitation sites in West Cumbria: part II, the Nethertown and Seascale Areas. *CW2* 84, 1-18.

Cherry, J. & P. Cherry, 1992. Further research on the prehistory of Cumbrian Limestone Uplands: the ceramic evidence. *CW2* 92, 13-22.

Cherry, J. & P. J. Cherry, 1987. *Prehistoric habitation sites on the limestone uplands of eastern Cumbria: a survey of the area between Shap and Kirkby Stephen.* Kendal: Cumberland and Westmorland Antiquarian and Archaeological Society.

Cherry, P. (ed.), 2007. *Studies in northern prehistory. Essays in memory of Clare Fell.* Kendal: Cumberland and Westmorland Antiquarian and Archaeological Society.

Cherry, P. & J. Cherry, 2002. Coastline and upland in Cumbrian Prehistory - a retrospective. *CW3* 2, 1-19.

Cherry, J. & C. Ellwood, 2001. Flint artefacts from Moor Divock. *CW3* 1, 191.

Childers, B. B., 1994. Long-term lichen-removal experiments and petroglyph conservation: Fremont County, Wyoming, Ranch Petroglyph Site. *Rock Art Research* 112, 101-112.

Clare, T., 1978. Recent work on the 'Shap Avenue'. *CW2* 78, 5.

Clare, T., 2006. Recent topographical survey of the Long Meg stone circle, Cumbria. *PAST* 52, 9-10.

Clare, T., 2007. *Prehistoric monuments of the Lake District.* Stroud: Tempus.

Clare, T., A. J. Clapham, D. M. Wilkinson & J. J. Taylor, 2002. The context of stone axes found at Portinscale and in the vicinity of the Castlerigg stone circle. Neolithic settlement sites or a case of votive offerings? *The Archaeological Journal* 159, 242-265.

Clare, T. & D. M. Wilkinson, 2006. Moor Divock revisited: some new sites, survey and interpretations. *CW3* 6, 1-16.

Clare, T. & K. Clarke, 2004. Two new examples of cup marks from Cumbria and their implications. *CW3* 4, 245-249.

Claris, P. & J. Quartermaine, 1989. The Neolithic quarries and axe factory sites of Great Langdale and Scafell Pike: a new field survey. *Proceedings of the Prehistoric Society* 55, 1-25.

Clogg, P., M. Díaz-Andreu & B. Larkman, 2000. Digital image processing and the recording of rock art. *Journal of Archaeological Science* 279, 837-843.

Clough, T.H.M. & W.A. Cummins (eds.), 1988. *Stone axe studies. Volume 2.* (Research Report 67.) London: Council for British Archaeology, 2 vols.

Coles, J., 2001. Rock carvings, rubbings and lichen. *Antiquity* 75, 255-6.

Coles, J. M., 1984. Prehistoric roads and trackways in Britain, in *Loads and roads in Scotland and beyond: land transport over 6000 years,* eds. A. Fenton & G. Stell. Edinburgh: J. Donald.

Collingwood, R., 1923. An inventory of the ancient monuments of Cumberland. *CW2* 23, 206-276.

Collingwood, R., 1933. An introduction to the prehistory of Cumberland and Westmorland and Lancashire north of the Sands. *CW2* 33, 163-200.

Collingwood, R., 1938. King Arthur's Round Table. Interim report on the excavations of 1937. *CW2* 38, 1-38.

Collingwood, W. G., 1901. Tumulus at Grayson-lands, Glassonby, Cumberland. *CW2* 1, 295-9.

Collins, A. E. P., D. M. Waterman, W. R. M. Morton & J. H. Scott, 1955. *Millin Bay: a late Neolithic cairn in Co. Down. Belfast*: H.M.S.O.

Cook, T., 1999. Rock carvings in Patterdale: a Neolithic puzzle. *Matterdale Historical and Archaeological Society Transactions* 6, 38-42.

Cooney, G., 1996. Lambay Island, *in Excavations 1995*, ed. I. Bennett. Dublin: Wordwell, 26-27.

Cooney, G., 1998. Breaking stones, making places: the social landscape of axe production sites, in *Prehistoric ritual & religion*, eds. A. Gibson & D. Simpson. Stroud: Sutton, 108-118.

Cooney, G., 2000. *Landscapes of Neolithic Ireland.* London: Routledge.

Cummings, V. & C. Fowler, 2004. Introduction: locating the Neolithic of the Irish Sea: materiality and traditions of practice, in *The Neolithic of the Irish Sea: materiality and traditions of practice*, eds. V. Cummings & C. Fowler. Oxford: Oxbow, 1-8.

Cummings, V. & C. Fowler, 2004. *The Neolithic of the Irish Sea: materiality and traditions of practice*. Oxford: Oxbow.

Cummings, V., A. Jones & A. Watson, 2002. Divided places: phenomenology and asymmetry in the monuments of the Black Mountains, Southeast Wales. *Cambridge Archaeological Journal* 121, 57-70.

Cummins, W.A., 1979. Neolithic stone axes: distribution and trade in England and Wales, in *Stone axe studies,* vol.1, eds. T.H.M. Clough and W.A. Cummins. (Research Report No 23.) London: Council for British Archaeology, 5-12.

Cummins, W., 1980. Stone axes as a guide to Neolithic communications and boundaries in England and Wales. *Proceedings of the Prehistoric Society* 46, 45-56.

Cummins, W. A., 1999. *The Picts and their symbols*. Stroud: Sutton.

Daniel, G. E., 1986. *Some small harvest: the memoirs of Glyn Daniel.* London: Thames and Hudson.

Darbishire, R., 1873. Notes on discoveries at Ehenside Tarn. *Archaeologia* 44, 273-292.

Darvill, T. 2002. White on blonde: quartz pebbles and the use of quartz at Neolithic monuments in the Isle of Man and beyond, in *Colouring the past: the significance of colour in archaeological research*, eds. A. Jones & G. MacGregor. Oxford and New York: Berg, 73-92.

Darvill, T. & B. O'Connor, 2005. The Cronk yn How Stone and the rock art of the Isle of Man. *Proceedings of the Prehistoric Society* 71, 283-331.

Darvill, T. & G. Wainwright, 2003. A cup-marked stone from Dan-y-garn, Mynachlog-Ddu, Pembrokeshire, and the prehistoric rock-art from Wales. *Proceedings of the Prehistoric Society* 69, 253-264.

David, B., J. Brayer, I. J. McNiven & A. Watchman, 2001. Why digital enhancement of rock art paintings work: rescaling and saturating colours. *Antiquity* 75 (290), 781-792.

Díaz-Andreu, M., 2001. Marking the landscape. Iberian post-paleolithic art, identities and the sacred, in *European landscapes of rock-art,* eds. G. H. Nash & C. Chippindale. London: Routledge, 158-175.

Díaz-Andreu, M., C. Brooke, M. Rainsbury & N. Rosser, 2006. The spiral that vanished: the application of non-contact recording techniques to an elusive rock art motif at Castlerigg stone circle in Cumbria. *Journal of Archaeological Science* 33 (11), 1580-1587.

Díaz-Andreu, M., R. Hobbs, N. Rosser, K. Sharpe & I. Trinks, 2005. Long Meg: rock art recording using 3D laser scanning. *PAST* 50, 2-6.

Donnan, E., 1999. Recording British rock art. *Tracce* 11, http://www.rupestre.net/tracce/donnfra.html.

Dronfield, J., 1993. Ways of seeing, ways of telling: Irish passage tomb art, style and the universality of vision, in *rock art studies: the post-stylistic era,* eds. M. Lorblanchet & P. Bahn. Oxford: Oxbow, 179-193.

Dronfield, J., 1995. Migraine, light and hallucinations: the neurocognitive basis of Irish megalithic art. *Oxford Journal of Archaeology* 143, 261-276.

Dumayne-Peaty, L. & K. Barber, 1998. Late Holocene vegetational history, human impact and pollen representativity variations in northern Cumbria, England. *Journal of Quaternary Science* 132, 147-164.

Durkheim, E., 1915. *The elementary forms of the religious life.* London: Allen and Unwin.

Dutton, A. & K. Clapperton, 2005. Rock art from a Bronze Age cairn at Balblair, near Inverness. *PAST* 51, 14-16.

Eccleston, J., 1874. Ancient remains at Lacra and Kirksanton. Read at Millom, August 29th, 1872. *CWI* 1, 278-281.

Edmonds, M. R., 1995. *Stone tools and society: working stone in Neolithic and Bronze Age Britain.* London: B.T. Batsford.

Edmonds, M. R., 1999. *Ancestral geographies of the Neolithic: landscapes, monuments and memory.* London: Routledge.

Edwards, G. & R. Bradley, 1999. Rock carvings and Neolithic artefacts on Ilkley Moor, West Yorkshire, in *Grooved ware in Britain and Ireland,* eds. R. Cleal & A. MacSween. (Neolithic Studies Group Seminar Papers 3) Oxford: Oxbow, 76-77.

Eklund, J. & P. S. Fowles, 2003. Three-dimensional recording by laser scanning of the petroglyphs at Rombald's Moor, West Yorkshire. *Conservation and Management of Archaeological Sites* 6, 11-22.

Eliade, M., 1958. *Patterns in comparative religion.* New York: New American Library.

Eliade, M., 1959. *The sacred and the profane: the nature of religion.* New York: Harcourt Brace Jovanovich.

Eogan, G., 1986. *Knowth and the passage tombs of Ireland.* London: Thames and Hudson.

Eogan, G., 1998. Knowth before Knowth. *Antiquity* 72, 162-172.

Eogan, G. & J. Aboud, 1990. Diffuse picking in megalithic art, in *La Bretagne et l'Europe Prehistoriques: memoire et homage a Pierre-Roland Giot,* Revue Archaeologique Ouest (Supplement no. 2), 121-140.

Evans, E. & T. A. Dowson, 2004. Rock art, identity and death in the early Bronze Age of Ireland and Britain, in *The Neolithic of the Irish Sea: materiality and traditions of practice*, eds. V. Cummings & C. Fowler. Oxford: Oxbow Books, 103-112.

Evans, H., 2004. Where is the Cumbrian Neolithic? in *The Neolithic of the Irish Sea: materiality and traditions of practice*, eds. V. Cummings & C. Fowler. Oxford: Oxbow Books, 123-128.

Evans, H. & D. Coward, 2003. A prehistoric occupation site at Sandscale Haws, Barrow-in-Furness. *Archaeology North* 22.

Fair, M. C., 1932. A reconsideration of the lakeside site at Ehenside Tarn. *CW2* 32, 57-62.

Fair, M. C., 1936. Loweswater Pele and Parks. *CW2* 36, 126-128.

Farrer, W., J. F. Curwen & B. Kendal, 1926. *Records relating to the barony of Kendal.* Kendal: T. Wilson.

Fell, C., 1940. Bronze Age connections between the Lake District and Ireland. *CW2* 40, 118-130.

Fell, C., 1967. Two enlarged food vessels from How Hill, Thursby. *CW2* 67, 17-25.

Fell, C., 1970. A settlement at Brantrake Moss, north of Devoke Water. *CW2* 70, 287-289.

Fell, C., 1974. Short notes on unrecorded prehistoric finds and sites. *CW2* 74, 1-7.

Fell, C., 1976. Some comments on the prehistory of north-west England. Presented to the British Archaeological Association, Lancaster, 1976. *The Clare Fell Archive:* WDX 1408, Kendal.

Ferguson, R. S., 1895. On a yumulus at Old Parks, Kirkoswald: with some remarks on one at Aspatria, and also on a cup, ring, and other markings in Cumberland and Westmorland. *CW1* 13, 389-399.

Ferguson, R. S., 1901. Early man, in *The Victoria history of the county of Cumberland,* ed. J. Wilson. London: Constable, 225-252.

Ferguson, S. C., 1910. A cup-and-ring marked stone from Honey Pots Farm, near Edenhall. *CW2* 10, 507-508.

Fergusson, J., 1872. *Rude stone monuments in all countries: their age and uses.* London: J. Murray.

Fiennes, C., 1888. *Through England on a side saddle: in the time of William and Mary.* London: Scribner and Welford

Fiennes, C. & C. Morris, 1949. *The journeys of Celia Fiennes.* London: Cresset Press.

Ford, B., P. Deakin & M. Walker, 2002. The tri-radial cairns of Northumberland. *Current Archaeology* 182, 82-85.

Forde-Johnston J.L., 1957. Megalithic art in the north-west of Britain: the Calderstones, Liverpool. *Proceedings of the Prehistoric Society* 23, 20-39.

Frodsham, P., 1989. Two newly discovered cup and ring marked stones form Penrith and Hallbankgate, with a gazetteer of all known megalithic carvings in Cumbria. *CW2* 89, 1-19.

Frodsham, P., 1996. Spirals in time: Morwick Mill and the spiral motif in the British Neolithic, in *Neolithic studies in no-man's land,* ed. P. Frodsham. *Northern Archaeology* 13/14, 101-138.

Fryer, G., 1991. *A natural history of the lakes, tarns and streams of the English Lake District.* Ambleside: Freshwater Biological Association.

Gaffney, V., Z. Stancic & H. Watson, 1995. Moving from catchments to cognition: tentative steps towards a larger archaeological context for GIS. *Scottish Archaeological Review* 9/10, 41-64.

Gage, J., A. Jones, R. Bradley, K. Spence, E. J. W. Barber & P. S. C. Taçon, 1999. What meaning had colour in early societies? *Cambridge Archaeological Journal* 9, 109-126.

Gale, S. & C. Hunt, 1990. The stratigraphy of Kirkhead Cave, an Upper Palaeolithic site in northern England: discussion. *Proceedings of the Prehistoric Society* 56, 51-6.

Gardner, A., 2004. *Agency uncovered: archaeological perspectives on social agency, power, and being human.* London: UCL Press.

Gell, A., 1998. *Art and agency: an anthropological theory.* Oxford: Clarendon Press.

Goldhahn, J., 2002. Roaring rocks: an audio-visual perspective on hunter-gatherer engravings in Northern Sweden and Scandinavia. *Norwegian Archaeological Review* 351, 29-61.

González Sáinz, C., R. C. Toca & T. Fukazawa, 1999. Photo vs multimedia database: Palaeolithic art in northern Spain. *International Newsletter on Rock Art* 24, 19-21.

Gordon, R. C. J., 1913. Old Eden bridges at Great Salkeld. *CW2* 13, 169-174.

Goskar, T. A., A. Carty, P. Cripps, C. Brayne & D. Vickers, 2003. The Stonehenge laser show. *British Archaeology* 73, 9-15.

Greenwell, R. W., 1874. Tumuli of Cumberland and Westmorland. *CW1* 1, 19-26.

Greenwell, R. W., 1877. *British barrows.* Oxford: Clarendon Press.

Hacking, I., 2002. *Historical ontology.* Cambridge, Mass.: Harvard University Press.

Hadingham, E., 1974. *Ancient carvings in Britain: a mystery.* London. Garnstone Press.

Hale, A., 2003. Prehistoric rock carvings in Strath Tay. *Tayside and Fife Archaeological Journal* 9, 6-13.

Harding, J., 1997. Interpreting the Neolithic: the monuments of North Yorkshire. *Oxford Journal of Archaeology* 163, 279-295.

Harding, J., 2000. Later Neolithic ceremonial centres, ritual and pilgrimage: the monument complex of Thornborough, North Yorkshire, in *Neolithic Orkney in its European context,* ed. A. Ritchie. Cambridge: McDonald Institute for Archaeological Research University of Cambridge, 31-46.

Harding, J., 2003. *Henge monuments of the British Isles.* Stroud: Tempus.

Harding, J. & B. Johnson, 2004. Yorkshire's holy secret. *British Archaeology* 75.

Harris, R., 2002. *Ancient walks in Lakeland.* Cheshire: Sigma Leisure.

Haverfield, F., 1911. Cotton Iulius F.VI. Notes on Reginald Bainrigg of Appleby, on William Camden and on some Roman inscriptions. *CW2* 11, 343-378.

Heawood, R. & E. Huckerby, 2002. Excavation of a burnt mound at Sparrowmire Farm, Kendal. *CW3* 2, 29-49.

Hedges, K., 1993. Places to see and places to hear: rock art and features of the sacred landscape, in *Time and space. Dating and spatial considerations in rock art research,* ed. P. S. C. Taçon. Melbourne: Australian Rock Art Research Association, 121-127.

Helms, M. W., 1988. *Ulysses' sail: an ethnographic odyssey of power, knowledge, and geographical distance.* Princeton, N.J.: Princeton University Press.

Helskog, K., 1999. The shore connection. Cognitive landscape and communication with rock carvings in northernmost Europe. *Norwegian Archaeological Review* 322, 73-94.

Hewitt, I., 1991. Prehistoric decorated stones: mobiliary examples. *Northern Archaeology* 11, 51-56.

Higham, N. J., 1986. *The northern counties to AD 1000.* New York: Longman.

Hindle, B. P., 1984. *Roads and trackways of the Lake District.* Ashbourne: Moorland Publishing.

Hirsch, E. & M. O'Hanlon, 1995. *The Anthropology of landscape: perspectives on place and space.* Oxford: Clarendon Press.

Hoaen, D. A. W. & D. H. Loney, 2003. Later prehistoric settlement in Matterdale and Hutton parishes: recent survey results. *CW3* 3, 51-65.

Hoaen, D. A. W. & D. H. Loney, 2007. Cairnfields: Understanding economic and ecological practice, in *Studies in northern prehistory. Essays in memory of Clare Fell,* ed. P. Cherry. Extra Series, Cumberland and Westmorland Antiquarian and Archaeological Society 33: 189-210.

Hodgkinson, D., E. Huckerby, R. Middleton & C. Wells 2000. *The lowland wetlands of Cumbria.* Lancaster: Lancaster University Archaeology Unit.

Hodgson, J., 1820. *A topographical and historical description of the county of Westmoreland.* London: Sherwood Neely and Jones.

Hodgson, J & M. Brennand (eds.), 2005. North west archaeological regional framework: prehistoric assessment.

Hodgson, K. S., 1949. The stone circles in Broomrigg Plantation (542465), near Ainstable. *CW2* 48, 215-216.

Hodgson, K. S., 1952. Further excavations at Broomrigg near Ainstable, *CW2* 52, 1-8.

Hodgson, K. S., 1956. Three unpublished collections of Bronze Age pottery: Netherhall, Garlands and Aglionby. *CW2* 56, 1-17.

Hodgson, K.S. & R. K. Harper, 1950. The prehistoric site at Broomrigg near Ainstable: the excavations of 1948-49. *CW2* 50, 30-42.

Hodgson, M. K., 1935. Notes on stone circles at Broomrigg, Grey Yauds, etc. *CW2* 35, 77-79.

Hodgson, T. H., 1895. Bone spear or harpoon head from Terra del Fuego, found on peat near Crosby-on-Eden. *CW1* 13, 402.

Hood, S., 2005. New evidence for prehistoric activity in and around Dean Parish. *CW3* 5, 1-10.

Horne, P. D., D. MacLeod & A. Oswald, 2002. The seventieth causwayed [sic] enclosure in the British Isles? In *Enclosures in Neolithic Europe: essays on causewayed and non-caueswayed [sic] sites*, eds. G. Varndell & P. Topping. Oxford: Oxbow, 115-120.

Houlder, C., 1968. The henge monuments at Llandegai. *Antiquity* 52, 216-221.

Huntley, J. P. & S. Stallibrass, 1995. *Plant and vertebrate remains from archaeological sites in northern England: data reviews and future directions.* Durham: Architectural and Archaeological Society of Durham and Northumberland.

Hutchinson, W., 1974. *The history of the county of Cumberland.* Ilkley: EP Publishing.

Ilkley Archaeology Group & J. D. Hedges, 1986. *The carved rocks on Rombalds Moor: a gazetteer of the prehistoric rock carvings on Rombalds Moor, West Yorkshire.* West Yorkshire: Ilkley Archaeology Group.

Ingold, T., 1986. *The appropriation of nature: essays on human ecology and social relations.* Manchester: Manchester University Press.

Jackson, P., 1995. A continuing belief system? Irish passage grave art and the cup and ring engravings of the British Isles and Eire. in *Perceiving rock art: social and political perspectives*, eds. K. Helskog & B. Olsen. Oslo: Novus, The Institute for Comparative Research in Human Culture: 396-406.

Janik, L., 2004. Rock carvings of Russian Karelia: visual perception and cognition. *Antiquity* 78(299), http://www.antiquity.ac.uk.ezphost.dur.ac.uk/projgall/janik/index.html.

Johnson, B., A. Rushworth, F. Giecco, J. M. Zant, G. Craddock, N. Wigfield & R. Grahame, in prep. A report on excavations of prehistoric structures near Carlisle.

Johnstone, P. & S. McGrail, 1980. *The seacraft of prehistory.* London: Routledge & K. Paul.

Jones, A., 1999. Local colour: megalithic architecture and colour symbolism in Neolithic Arran. *Oxford Journal of Archaeology* 184, 339-350.

Jones, A., 2005. Between a rock and a hard place: rock art and mimesis in Neolithic and Bronze Age Scotland, in *Set in stone. New approaches to Neolithic monuments in Scotland*, eds. V. Cummings & A. Pannett. Oxford: Oxbow Books, 107-117.

Jones, A., 2006. Animated images: images, agency and landscape in Kilmartin, Argyll, Scotland. *Journal of Material Culture* 111-2, 211-225.

Jones, A. & R. Bradley, 1999. The significance of colour in European archaeology. *Cambridge Archaeological Journal* 9, 112-114.

Jones, A. & G. MacGregor, 2002. *Colouring the past: the significance of colour in archaeological research.* Oxford and New York: Berg.

Kinnes, I., I. H. Longworth & British Museum, 1985. *Catalogue of the excavated prehistoric and Romano-British material in the Greenwell Collection.* London: British Museum Publications for the Trustees of the British Museum.

Kirsh, R. A., 1997. Photogrammetric reconstruction of petroglyphs. *American Indian Rock Art* 23, 177-182.

Knapp, A. B. & W. Ashmore, 1999. Archaeological landscapes: constructed, conceptualized, ideational, in *Archaeologies of landscape: contemporary perspectives*, ed. A. B. Knapp. Oxford: Blackwell Publishers, 1-23.

Lamb, G., 1897. Cup-marked stone found near Edinburgh. *Reliquary and Illustrated Archaeologist*, 231-232.

Lambert, D., 1989. *Conserving Australian rock art: a manual for site managers.* Canberra: Aboriginal Studies Press.

Laurie, T., 2004. Springs, woods and prehistoric people: reconstructing a Pennine landscape during later prehistory. *Landscape* 5(1).

Layton, R., 1992. *Australian rock art: a new synthesis.* Cambridge and New York: Cambridge University Press.

Layton, R., 1999. The Alawa totemic landscape: ecology, religion, politics, in *The archaeology and anthropology of landscape*, ed. R. Layton. London and New York: Routledge, 219-238.

Le Roux, C.-T., 1985. New excavations at Gavrinis. *Antiquity* 69, 183-187.

Le Roux, C.-T., 1992. The art of Gavrinis presented in its Armorican context and in comparison with Ireland. *Journal of the Royal Society of Antiquaries of Ireland* 122, 79-108.

Lewis-Williams, J. D. & T. A. Dowson, 1993. On vision and power in the Neolithic: evidence from the decorated monuments. *Current Anthropology* 341, 55-65.

L'Helgouac'h, J., C.-T. Le Roux & J. Lecornec, 1997. Art et symboles du mégalithisme européen : actes du 2ème Colloque international sur l'art mégalithique, Nantes, juin 1995. *Revue archéologique de l'ouest. Supplément; no 8.* Rennes: Association pour la diffusion des recherches archéologiques dans l'ouest de la France.

Loendorf, L., 2001. Rock art recording, in *Handbook of rock art research*, ed. D. S. Whitley. Walnut Creek, London, New Delhi: AltaMira Press, 55-79.

Loendorf, L. L., L. Olson, S. Conner & J. C. Dean 1998. *A manual for rock art documentation*, privately published by the authors.

Löfvendahl, R. & J. Magnusson, 2001. Research and development - degradation and care, in *Rock carvings in the Borderlands. Bohuslän/Dalsland and Østforld - An INTERREG IIA project - Final Report*, eds. K. Kallhovd & J. Magnusson. Göteborg and Sarpsborg: Länsstyrelsen Västra Götaland and Østfold County Council, 47-72.

Loney, H. & A. W. Hoaen, 2003. Field Survey in Glencoyne Park. *Archaeology North* 21, 9-11.

Loney, H. & A. W. Hoaen, 2004. Bronze and Iron Age connections: Memory and persistence in Matterdale, Cumbria. *CW3* 4, 39-54.

Loney, H. & A. W. Hoaen, 2005. Landscape, memory and material culture: interpreting diversity in the Iron Age. *Proceedings of the Prehistoric Society* 71, 361-378.

Longworth, I. H., 1971. A Grooved Ware site at Lion Point, Clacton. *British Museum Quarterly* 35, 93-124.

Lund, J., 2001. Survey of a Roman British settlement at Lanthwaite Green, Crummock. *Archaeology North* 18(Summer), 16-18.

Lynch, F., 1967. Barclodiad Y Gawres. Comparative notes on the decorated stones. *Archaeologia Cambrensis* CXVI, 1-22.

Lynch, F., 1998. Colour in prehistoric architecture, in *Prehistoric ritual and religion: essays in honour of Aubrey Burl*, eds. A. Burl, A. M. Gibson & D. D. A. Simpson. Stroud: Sutton, 62-67.

MacGregor, G., 2002. Making monuments out of mountains: the role of colour and texture in the constitution of meaning and identity at recumbant stone circles, in *Colouring the past: the significance of colour in archaeological research*, eds. A. Jones & G. MacGregor. Oxford and New York: Berg, 141-158.

Mack, A., 1997. *Field guide to the Pictish symbol stones.* Balgavies: Pinkfoot Press.

MacKie, E. & A. Davis, 1989. New light on Neolithic rock carvings the petroglyphs at Greenland Auchentorlie, Dumbartonshire. *Glasgow Archaeological Journal* 15, 125-155.

Mackintosh, J., 2005. Archaeological projects in Cumbria 2004. *CW3* 5, 255-302.

MacLeod, I. D., P. Haydock & E. Charton, 1995. Avian guano and its effects on the preservation of rock paintings, in *Preservation of rock art*, eds. A. Thorn & J. Brunet. Melbourne: Australian Rock Art Research Association, 60-64.

MacWhite, E., 1946. A new view on the Irish Bronze Age rock scribings. *Journal of the Royal Society of Antiquaries of Ireland* 76, 59-80.

Magnusson, J., C. Bertilsson & I.-M. Olsrud, 2001. Development of documentation standard and IT system, in *Rock carvings in the Borderlands. Bohuslän/Dalsland and Østforld - An INTERREGIIA project - Final Report*, eds. K. Kallhovd & J. Magnusson. Göteborg and Sarpsborg: Länsstyrelsen Västra Götaland and Østfold County Council, 33-46.

Makepeace, G. A., 2001. Prehistoric rock carvings near Ladybower Tor, Derbyshire. *Derbyshire Archaeological Journal* 121, 17-18.

Manby, T., 1965. The distribution of rough-out 'Cumbrian' and related axes of Lake District origin in Northern England. *CW2* 65, 1-37.

Manby, T. G., 1974. *Grooved ware sites in Yorkshire and the North of England.* (British Archaeological Reports British Series 9) Oxford: BAR.

Mandt, G., 1995. Alternative analogies in rock art interpretation: the West Norwegian case, in *Perceiving rock art: social and political perspectives*, eds. K. Helskog & B. Olsen. Oslo, Novus: The Institute for Comparative Research in Human Culture, 263-91.

Marshall, D., 1977. Carved stone balls. *Proceedings of the Society of Antiquaries of Scotland* 108, 40-72.

Marymor, M. L. 1999. *Rock art studies: a bibliographic database.*

Mason J. R., 1923. Antiquities at Dean *CW2* 23, 34-5.

Mason, J. R. & H. Valentine, 1924. The British village site at Lanthwaite Green and other earthworks in West Cumberland. *CW2* 24, 117-121.

Masters, L., 1984. The Neolithic long cairns of Cumbria and Northumberland, in *Between and beyond the walls: essays on prehistory and history of Northern Britain in honour of George Jobey*, eds. R. Miket & C. Burgess: Edinburgh: John Donald, 52-73.

McCarthy M.R., 2002. *Roman Carlisle and the lands of the Solway.* Stroud: Tempus.

McGrail, S. 1978. *Logboats of England and Wales*, (British Archaeological Reports British Series 51.) Oxford: BAR. 2 vols.

Meighan, I. G., D. D. A. Simpson, B. N. Hartwell, A. E. Fallick & P. S. Kennan, 2003. Sourcing the quartz at Newgrange, Brú na Bóinne, Ireland, in *Stones and bones: formal disposal of the dead in Atlantic Europe during the Mesolithic-Neolithic interface 6000-3000 BC: archaeological conference in honour of the Late Professor Michael J. O'Kelly. Proceedings of the Stones and Bones conference in Sligo, Ireland, May 1-5, 2002*, eds. G. Burenhult & S. Westergaard. (BAR International series 1201.) Oxford: Archaeopress, 247-252.

Mithen, S., 1998. The supernatural beings of prehistory and the external storage of ideas, in *Cognition and material culture: the archaeology of symbolic storage*, ed. C. Scarre. Cambridge: McDonald Institute Monographs, 97-106.

Morphy, H., 1994. The anthropology of art, in *Companion encyclopaedia of anthropology. Humanity, culture and social life*, ed. T. Ingold. London: Routledge, 648-685.

Morphy, H., 1995. Landscape and the reproduction of the ancestral past, in *The anthropology of landscape: perspectives on place and space*, ed. M. O'Hanlon. Oxford: Clarendon, 184-209.

Morris, R., 1970. Prehistoric rock carvings in southern Scotland. *A.G.O.* 7, 6-8.

Morris, R., 1977. *The prehistoric rock art of Argyll.* Poole: The Dolphin Press.

Morris, R., 1979. *The prehistoric art of Galloway and the Isle of Man.* Poole: Blandford Press.

Morris, R., 1981. *The prehistoric rock art of Southern Scotland, except Argyll.* (British Archaeology Reports British Series 86.) Oxford: B.A.R.

Morris, R., 1989. The prehistoric rock art of Great Britain: a survey of all sites bearing motifs more complex than simple cup-marks. *Proceedings of the Prehistoric Society* 55, 45-88.

Mullan, G. J. & L. J. Wilson, 2004. A possible Mesolithic engraving in Aveline's Hole, Burrington Combe, North Somerset. *Proceedings of the Bristol Speleological Society* 232, 75-85.

Murray, H., C. Murray & S. Fraser, 2006. A prehistoric complex in the Dee Valley, Aberdeenshire: further work reveals more surprises. *PAST* 54, 3-4.

Nicholson, J. & R. Burn, 1976. *The history and antiquities of the counties of Westmorland and Cumberland.* West Yorkshire: EP Publishing Ltd.

Noble, G., in press. Monumental journeys: ceremonial complexes and routeways across Neolithic Scotland, in *Prehistoric Journeys*, eds. V.Cummings & R.Johnson. Oxford: Oxbow.

O'Connor, B., 2003. Recent excavations in a rock art landscape. *Archaeology Ireland* 17(4), 14-16.

Ogilby, J. 1675. *Britannia.* London: A Duckham, 1939.

O'Kelly, M. J., 1982. *Newgrange: archaeology, art and legend.* London: Thames and Hudson.

Oppenheimer, S., 2006. *The origins of the British: a genetic detective story.* London: Constable.

O'Sullivan, A. & J. Sheehan, 1993. Prospection and outlook. Aspects of rock art on the Iveragh Peninsula, Co. Kerry, in *Past perceptions: the prehistoric archaeology of south-west Ireland*, eds. E. Shee Twohing & M. Ronayne. Cork: University of Cork Press, 75-84.

O'Sullivan, M., 1986. Approaches to passage tomb art. *Journal of the Royal Society of Antiquaries of Ireland* 116, 68-83.

O'Sullivan, M., 1993. Recent investigations at Knockroe Passage Tomb. *Journal of the Royal Society of Antiquaries of Ireland* 123, 94-107.

O'Sullivan, M., 1996. A platform to the past - Knockroe passage tomb. *Archaeology Ireland* 2, 11-13.

Patton, M., 1991. An Early Neolithic axe factory at Le Pinacle, Jersey, Channel Islands. *Proceedings of the Prehistoric Society* 57, 51-59.

Pearsall, W. H. & W. Pennington, 1973. *The Lake District: a landscape history.* London: Collins.

Pearson, M. P., J. Pollard, C. Richards, J. Thomas, C. Tilley, K. Welham & U. Albarella, 2006. Materializing Stonehenge: The Stonehenge Riverside Project and new discoveries. *Journal of Material Culture* 11(1/2), 227-261.

Pearson, T. & P. Topping, 2002. Rethinking the Carrock Fell enclosure, in *Enclosures in Neolithic Europe: essays on causewayed and non-caueswayed [sic] sites*, eds. G. Varndell & P. Topping. Oxford: Oxbow, 121-127.

Peña Santos, F. A. d. l., 1975. El petroglifos de 'Pinar do Rei' en Cangas de Morrazo, Pontevedra. *Gallaecia* 1, 91-108.

Pennant, T., 1774. *A tour in Scotland, MDCCLXIX.* Warrington: W. Eyres.

Pennington, W., 1970. Vegetational history in the North West of England: A Regional Synthesis, in *Studies in the vegetational history of the British Isles*, eds. D. Walker & R. West. Cambridge: Cambridge University Press, 41-80.

Pennington, W., 1975. The effect of Neolithic man on the environments of north-west England: the use of absolute pollen diagrams, in *The effect of man on the landscape: the Highland zone*, eds. J. G. Evans, S. Limbrey & H. Cleere. (CBA Research Report No 11), London: Council for British Archaeology, 74-85.

Petrequin, P., F. Jeudy & C. Jeuness 1993. Neolithic quarries, the exchange of axes and social control in the Southern Vosges, in *Trade and exchange in prehistoric Europe: proceedings of a conference held at the University of Bristol, April 1992*, eds. C. Scarre & F. Healy. Oxford: Oxbow Books in association with the Prehistoric Society and the Société Préhistorique Française,45-60.

Petts, D., 2002. Beacon Hill, Aspatria: an early Christian carved stone rehabilitated. *CW2* 2, 103-109.

Piggott, S., 1974. Excavations of the Dalladies long barrow, Fettercairn, Kincardineshire. *Proceedings of the Society of Antiquaries of Scotland*, 104, 23-47.

Pike, A. W. G., M. Gilmour, P. Pettitt, R. Jacobi, S. Ripoll, P. Bahn & F. Muñoz, 2005. Verification of the age of the Palaeolithic cave art at Creswell Crags, UK. *Journal of Archaeological Science* 32, 1649-1655.

Plint, R., 1962. Stone axe factory sites in the Cumbrian Fells. *CW2* 62, 1-26.

Price, B., 2004. Journeying into different realms. Travel, pilgrimage and rites of passage at Graig Lwyd. Unpublished MA Dissertation, Department of Archaeology, University of Cardiff.

Price, T. D., 2000. *Europe's first farmers.* Cambridge: Cambridge University Press.

Priuli, A., 2002. *Valcamonica: valley of prehistory.* Capo di Ponte: Priuli Edizioni.

Prosser, R., 1977. *Geology explained in the Lake District.* London: David and Charles.

Pryor, F., 1998. *Etton: excavations at a Neolithic causewayed enclosure near Maxey, Cambridgeshire, 1982-7.* London: English Heritage.

Purcell, A., 2002. The rock art landscape of the Iveragh Peninsula, County Kerry, south-west Ireland, in *European landscapes of rock art*, eds. G. Nash & C. Chippindale. London: Routledge, 71-92.

RAPP, 2000. *Rock art pilot project: proposals.* Bournemouth and London: Bournemouth University School of Conservation Sciences and University College London Institute of Archaeology for English Heritage. Limited circulation printed report.

RCAHMS, 1999. *Kilmartin: prehistoric & early historic monuments. An inventory of the monuments extracted from Argyll volume 6.* Edinburgh: Royal Commission on the Ancient and Historical Monuments of Scotland.

Richards, C., 1993. Monumental choreography: architecture and spatial representation in later Neolithic Orkney, in *Interpretative archaeology*, ed. C. Tilley. Oxford: Berg, 143-81.

Richards, C., 1996. Monuments as landscape: creating the centre of the world in late Neolithic Orkney. *World Archaeology* 282, 190-208.

Richards, C., 2004. A choreography of construction: monuments, mobilization and social organisation in Neolithic Orkney, in *Explaining social change: studies in honour of Colin Renfrew*, eds. C. Renfrew, J. F. Cherry, C. Scarre & S. Shennan. Cambridge: McDonald Institute for Archaeological Research, 103-113.

Richards, C., 2005. *Dwelling among the monuments: an examination of the Neolithic village of Barnhouse, Maeshowe passage grave and surrounding monuments at Stenness, Orkney.* Cambridge: McDonald Institute for Archaeological Research.

Richardson, C., 1992. Excavations on a cup-and-ring marked boulder on Tortie Hill, Midgeholme parish, NY5895781 and a newly discovered decorated rock in the vicinity, NY588578. *CW2* 92, 7-11.

Robson Brown, K. A., A. Chalmers T. Saigol, C. Green & F.d'Errico, 2001. An automated laser scan survey of the Upper Palaeolithic rock shelter of Cap Blanc. *Journal of Archaeological Science* 28, 283-289.

Rooke, M. H., 1792. Druidical and other British remains in Cumberland. *Archaeologia* 10: 105-113.

Rosenfeld, A., 1988. *Rock art conservation in Australia.* Canberra: Australian Government Publishing Service.

Ruggles, C. L. N., 1999. *Astronomy in prehistoric Britain and Ireland.* New Haven: Yale University Press.

Russell, M., 2002. *Monuments of the British Neolithic. The roots of architecture.* London: Tempus.

Salisbury, C., 1986. Comments on Kirkhead Cave, an Upper Palaeolithic site in northern England. *Proceedings of the Prehistoric Society* 52, 321-3.

Salisbury, C., 1988. Late Upper Palaeolithic artefacts from Lindale Low Caves, Cumbria. *Antiquity* 62, 510-3.

Salisbury, C., 1992. The Pleistocene exploitation of Cumbria: A Review of the Evidence. *CW2* 92, 1-6.

Scarre, C., 1997. Misleading images: Stonehenge and Brittany. *Antiquity* 71, 1016-1020.

Scarre, C., 2002. Epilogue: colour and materiality in prehistoric society, in *Colouring the past: the significance of colour in archaeological research*, eds. A. Jones & G. MacGregor. Oxford and New York: Berg, 227-242.

Scarre, C. (ed.), 2002. *Monuments and landscape in Atlantic Europe.* London: Routledge.

Scott, J., 1989. The stone circles at Temple Wood, Kilmartin. *Glasgow Archaeological Journal* 15, 53-124.

Scruton, R., 2005. *Philosophy: principles and problems.* London: Continuum.

Shackleton, E. H., 1966. *Lakeland geology.* Yorkshire: Dalesman.

Shee Twohig, E., 1981. *The megalithic art of Western Europe.* Oxford: Clarendon Press.

Shepherd, A., 2000. Expressing identity in a Neolithic community, in *Neolithic Orkney in its European context*, ed. A. Ritchie. Cambridge: McDonald Institute for Archaeological Research, 139-159.

Sheridan, A., 2004. Neolithic connections along and across the Irish Sea, in *The Neolithic of the Irish Sea: materiality and traditions of practice*, eds. V. Cummings & C. Fowler. Oxford: Oxbow, 9-21.

Sherratt, A., 1990. The genesis of megaliths: monumentality, ethnicity and social complexity in Neolithic north-west Europe. *World Archaeology* 222, 147-167.

Sherratt, A., 1996. Why Wessex? The Avon route and river transport in later British prehistory. *Oxford Journal of Archaeology* 152, 211-227.

Simpson, A., P. Clogg, M. Díaz-Andreu & B. Larkman, 2004. Towards three dimensional non-invasive recording of incised rock art. *Antiquity* 78 (301), 692-698.

Simpson, D. & J. Thawley, 1972. Single grave art in Britain. *Scottish Archaeological Forum* 4, 81-104.

Simpson, J., 1860. Stone circles near Shap, Westmorland. *Proceedings of the Society of Antiquaries of Scotland* 4, 443-449.

Simpson, J., 1865. On ancient sculpturings of cups and concentric rings. *Proceedings of the Society of Antiquaries of Scotland* 6, 1-140.

Simpson, J. Y., 1867. *Archaic sculpturings of cups, circles &c. upon stones and rocks in Scotland, England & other countries.* Edinburgh: Edmonston and Douglas.

Simpson, R. J., 1874. The present state of antiquarian research in Westmorland and Cumberland. *CW1* 1, 1-18.

Skeates, R., 2002. Axe aesthetics: stone axes and visual culture in prehistoric Malta. *Oxford Journal of Archaeology* 211, 13-22.

Skeates, R., 2005. *Visual culture and archaeology: art and social life in prehistoric south-east Italy.* London: Duckworth.

Skinner, C., 2000. Recognising and reconstructing prehistoric landscapes: a new case study from eastern Cumbria. Unpublished PhD Thesis, University of Leicester, Leicester.

Smith, I. F., 1965. *Windmill Hill and Avebury: excavations by Alexander Keiller,1925-1939.* Oxford: Clarendon Press.

Sobrino Lorenzo-Ruza, R., 1952. El origien de los petroglifos gallegos atlánticos. *Zephyrus* 32, 125-149.

Soffe, G. & T. Clare, 1988. New evidence of ritual monuments at Long Meg and Her Daughters, Cumbria. *Antiquity* 62(236), 552-7.

Spence, J. E., 1934. An early settlement on Moor Divock. *CW2* 34, 45-49.

Spence, J. E., 1940. Report of the Committee for Prehistoric Studies, 1937-1939. *CW2* 40, 170-172.

Stevenson, J. B., 1993. Cup-and-ring markings at Ballochmyle, Ayrshire. *Glasgow Archaeological Journal* 18, 33-40.

Stewart, M. E. C., 1959. Strath Tay in the second millennium B.C. A field survey. *Proceedings of the Society of Antiquaries of Scotland* 92, 71-84.

Stukeley, W. & C. Bertram, 1776. *Itinerarium curiosum.* London: Baker and Leigh. 2nd edition.

Swartz Jr., B. K. & J. P. Hale, 2000. Establishment of a global archive of prehistoric rock art photographs. *Tracce* 13, http://rupestre.net/tracce/12/globarch.html.

Taçon, P. S. C., 1999. All things bright and beautiful: the role and meaning of colour in human evolution. *Cambridge Archaeological Journal* 9, 120-123.

Taçon, P. S. C. & P. Faulstich, 1993. Introduction: expressing relationships to the land by marking special places, in *Time and space. Dating and spatial considerations in rock art research*, ed. P. S. C. Taçon. Melbourne: Australian Rock Art Research Association, 81-90.

Taçon, P., R. Fullagar, S. Ouzman & K. Mulvaney, 1997. Cupule engravings from Jinmium-Granilpi northern Australia. and beyond: exploration of a widespread and enigmatic class of rock markings. *Antiquity* 71, 942-965.

Tate, G., 1865. *The ancient British sculptured rocks of Northumberland and the Eastern Borders.* Alnwick: Henry Hunter Blair.

Taylor, C., 1979. *Roads and tracks of Britain.* London: J.M. Dent.

Taylor, M. W., 1883. On a cup-marked stone found at Redhills, near Penrith. *CWI* 6, 110-8.

Thirault, E., 2005. The politics of axe supply: the Neolithic axe industry in Alpine Europe. *Antiquity* 79, 34-50.

Thom, A., 1967. *Megalithic sites in Britain.* Oxford: Clarendon.

Thomas, J., 1991. *Rethinking the Neolithic.* Cambridge: Cambridge University Press.

Thomas, J., 1992. Monuments, movement and the context of megalithic art, in *Vessels for the ancestors: essays on the Neolithic of Britain and Ireland in honour of Audrey Henshall*, eds. A. S. Henshall, N. M. Sharples & A. Sheridan. Edinburgh: Edinburgh University Press, 143-155.

Thomas, J. & C. Tilley, 1993. The axe and the torso: symbolic structures, in *Interpretative archaeology*, ed. C. Tilley. Oxford: Berg, 342-324.

Thomas, N., 1955. The Thornborough Circles, near Ripon, North Riding. *Yorkshire Archaeological Journal* 38, 425-445.

Thornley, R., 1902. Ring-marked stones at Glassonby and Maughanby. *CW2* 2, 380-3.

Tilley, C., 1994. *A phenomenology of landscape: places, paths and monuments.* Oxford: Berg.

Tilley, C., 1996. The power of rocks: topography and monument construction on Bodmin Moor. *World Archaeology* 282, 161-176.

Tilley, C., 2004. *The materiality of stone: explorations in landscape phenomenology.* Oxford: Berg.

Tipping, R., 1986. The stratigraphy of Kirkhead Cave: an Upper Palaeolithic site in northern England: a comment. *Proceedings of the Prehistoric Society* 52, 323-6.

Tooley, M. J., 1985. Sea-level changes and coastal morphology in north-west England, in *The Geomorphology of north-west England*, ed. R. H. Johnson. Manchester:, Manchester University Press, 94-121.

Tratebas, A. M. & F. Chapman, 1996. Ethical and conservation issues in removing lichens from petroglyphs. *Rock Art Research* 132, 129-132.

Trinks, I., M. Diaz-Andreu, R. Hobbs & K. E. Sharpe, 2005. Digital rock art recording: visualising petroglyphs using 3D laser scanner data. *Rock Art Research* 222, 131-139.

Tuan, Y.-F., 1974. *Topophilia: a study of environmental perception, attitude and values.* New Jersey: Prentice-Hall.

Turnbull, P. & D. Walsh, 1997. A prehistoric ritual sequence at Oddendale, near Shap, *CW2* 97, 11-44.

Van Hoek, M., 1997. The distribution of cup-and-ring motifs along the Atlantic seaboard of Europe. *Rock Art Research* 141, 3-17.

Van Hoek, M., 2001. *The geography of cup-and-ring art in Europe.* Warmsroth: StoneWatch.

J. Hodgson & M. Brennand (eds.), 2005. North West Archaeological Regional Framework: Prehistoric Assessment.

Varndell, G., 1999. An engraved chalk plaque from Hanging Cliff, Kilham. *Oxford Journal of Archaeology* 184, 351-355.

Vyner, B. E., 1984. The excavation of a Neolithic cairn at Street House, Loftus, Cleveland. *Proceedings of the Prehistoric Society* 50, 151-195.

Waddington, C., 1998. Cup and ring marks in context. *Cambridge Archaeological Journal* 81, 29-54.

Waddington, C., 2001. Breaking out of the morphological straightjacket: early Neolithic enclosures in northern Britain. *Durham Archaeological Journal* 16, 1-14.

Waddington, C., 1996. Putting rock art to use. A model of early Neolithic transhumance in north Northumberland, in *Neolithic Studies in No Man's Land*, ed. P. Frodsham. Newcastle: The Northumberland Archaeological Group.